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Spend, spend, spend

Predictably critics of Labour's new policy for higher education have concentrated on the great expansion of public expenditure that it will require. In an important sense that is beside the point. All Labour policies will, or should, require a radical shift from private consumption to public investment, a move away from the political economy of private markets towards a socialist reorganization of society. Either Labour will have the courage to stick to its policies or it will not. Only time will tell. But it is hardly a valid criticism of Labour's new programme for post-18 education to say that it is socialist.

A second and similar criticism is that the party's new proposals are based on egalitarian principles which even if they are desirable (a very large question mark is normally interjected at this point in the argument) can never be put into operation, but which in any vain attempt at implementation may degenerate first into new forms of social and economic privilege and ultimately into totalitarianism (nearly always suggestively qualified by the adjective "East European"). Again socialists are unlikely to have their confidence shaken by such a bourgeois argument.

The Labour proposals deserve to be judged on their own terms, not rubbished by irreconcilably hostile critics. But this does not mean that they must be approved. The plan is radical in scale but much less so in its underlying assumptions. In Labour terms these are entirely consistent with those broader egalitarian assumptions made in Anthony Crosland's *Future of Socialism*; in higher education terms they are almost identical to the assumptions made by the broad church of liberals that has grown up since Robbins. Judged in this fairer perspective Labour's plan is as likely to be accused of conventionality as of extremism.

For, although far more thorough and radical than the first thoughts of the Social Democratic Party on the same subject, Labour's rival plan is also a victim of the "inwardness" that is still such a prominent feature of British higher education. If the SDP draft read a little too much like the distilled conventional wisdom of the (liberal) university club, Labour's document has the clear stamp of being produced by insider-technocrats.

From the point of view of the reformer the "problem" of higher education can be simply described. The expansion of the universities and the development of the polytechnics and colleges over the last 25 years have made going on to higher education a commonplace experience among the middle classes, but have made depressingly little impact on the opportunities available to working class young people (and, with the honourable exception of the Open University and a few other institutions, for older people of all classes).

But that is only half the story. At the same time the great expansion of higher education has largely taken the form of the replication of existing patterns rather than the invention of new ones. General first degrees have not flourished despite the desire of the Robbins committee. The Diploma of Higher Education has remained a precarious innovation, virtually imprisoned in the decaying fabric of teacher education. Other sub-degree courses have barely held their own. The number of part-time students has remained disappointingly small.

Nor is this conservatism simply a question of form. It cannot be wished away by having more modular degrees or even by imposing a compulsory system of credit transfer on unwilling universities and colleges. The overwhelming impression created by British higher education is of a system of institutions still very much committed to traditional values and restricted by a narrow view of the possibilities of education after school. Moreover this cannot be dismissed as indefensible class conservatism. For commitment to these values is intimately linked to academic standards within higher education and with the broader ideas of intellectual merit and professional competence.

This is the mould that Labour, as a socialist party, must try to break. But it must do so in a regenerative way that maintains the capacity to create a new mould with reformed standards of quality, merit, and competence. So it is a job that requires a paradoxical combination of radicalism and delicacy. It is not clear that Labour's plan passes this difficult test. First, perhaps because it is largely the work of insiders, it seems at time radically to underestimate the magnitude of reform, by appearing to suggest that the composition of the University Grants Committee or the *hauteurs* of Oxford are major blockages when they are merely sideshows.

A second and more substantial doubt about Labour's plan is that it seems to be based on the complacent assumption that somewhere out there are lots more potential students eager to enter higher education as *it still is* and only prevented from doing so by biased admissions policies, rigid entry standards, and inadequate students grants. At any rate the emphasis on external issues and the comparative neglect of internal reform suggest that this is Labour's belief. Yet the available evidence on demand indicates that such a belief is naive. So the danger is that Labour's recipe of open admissions, more liberal entry standards, preparatory courses, and cash entitlements for adult study would simply pander to the intellectual consumerism of the middle classes, an all-too-familiar and all-too-depressing rerun of the experience of the 1960s and 1970s.

A third doubt about Labour's proposals arise from their dependence on pseudo-market mechanisms and their avoidance of root-and-branch structural reform. This mirrors to some extent their similar bias towards the manipulation of external procedures and their neglect of the reform of internal values. Of course, 1960s-style planning is no longer popular and much greater faith is now placed in "market" solutions whether selfish or social. The difficulty for Labour is two-fold. Market solutions are nearly always expensive solutions because their results cannot be planned. Only experience would show whether Labour's recipe for liberalization would suck in as many marginal middle class students as students from working class homes, and in the meantime a lot of scarce public expenditure would have been committed to this uncertain goal.

There is also the important question of the character of such expansion. Maybe this plan would lead in time to British higher education taking off on a populist trajectory as happened in the United States after 1945. But a different national culture, harsher economic circumstances, and the stubborn persistence of a powerful and exclusive academic tradition mean that the conditions for such a take-off are much less favourable.

For Labour there is a further fear. Is American-style entrepreneurial take-off the kind of higher education development which the Labour Party should encourage, or indeed that Britain can afford? Or would a more tightly focused and carefully planned expansion produce better, and cheaper, results? It is a choice that is not made explicit in the Labour document. Yet populism and socialism are not the same.

But it would be unfair to end on a negative note. The Labour Party is the only political party which is still firmly committed to the expansion of the social base of higher education. The SDP are stuck with liberal tinkering while the Conservative are engaged in rolling back a generation of progress. This document may not be the most coherent possible programme for reform but it is the only one we have.

Cut, cut, cut

Nothing much has changed. Despite the reformation of the Advisory Committee for the Supply and Education of Teachers and the creation of the National Advisory Body, cuts in teacher education places are still made very much as they were in the bad old days of the mid-1970s. Again this summer what should have been public, coherent, and sophisticated decisions about the future number of teachers and where they should best be educated have been taken by an indefensible process of panicky opportunism qualified by obscure criteria and poisoned by suspicions of political gerrymandering.

Two aspects of these latest cuts must cause particular concern. First is the question of timing. To announce provisional decisions in early August and to expect comments by mid-September is hardly fair. But nor is it necessary. It has been known for some time that further cuts in teacher education were on the way. Indeed it is perhaps not an exaggeration to say that it has been obvious for several years that the contraction of the mid-1970s was incomplete. So the Department of Education and Science should have been far more open about its gestating policies.

It should also have made use of the NAB. It is simply not fair to expect Mr Ball and his colleagues to produce a sensible future pattern for the polytechnic and college sector if they are not allowed to influence the future shape of teacher education, one of the sector's vital components. Nor can the DES shelter behind the excuse of an urgent deadline, especially when that deadline is the result of their own secretive dilatoriness. A few months spent getting the decisions right would be a lesser evil than taking the wrong decisions.

The second cause for concern is the criteria the DES has used to arrive at it, in some cases surprising, decisions about individual colleges and departments. Of course, the pro-university bias of the inspectorate is one of the ingredients but it is much more difficult to explain the harsh treatment of so many polytechnic departments and the balancing reprieve of some smaller colleges that had been thought to be vulnerable. The designation of "centres of excellence" looks suspiciously like rhetorical wrapping to make the package more attractive. All these decisions taken together hardly add up to a sensible and coherent pattern for the future of teacher education. Rather they are just another example of the mismanagement of planning within the DES.

Laurie Taylor

Ah, Professor Lapping.

What is it, Maureen?

You don't seem to have done your usual letter to the new first-years, sir. The one in which you congratulate them on their A level results.

Haven't I?

No, sir.

There's always something isn't there, Maureen? I was hoping to make a start on clearing my desk this morning.

I'm sorry, sir.

Not your fault. Not your fault. Well, let's see. How do we start these damn things?

Something like: "Dear First Year, or "Dear New First Year",

Mmmm. I think "First Year" is enough.

Then something like: "We very much look forward to seeing you in the department at two o'clock on October 6."

As soon as that? October 6?

I'm afraid so, sir.

And I've hardly made a start on the backlog. Come on, Maureen. Let's get this out of the way. What next?

We usually say something about it all being a little strange and anonymous and even alienating at first.

Do we?

Yes, sir. And then go on to say that this is inevitable in a large department but that they will find friendly informal contacts quickly develop with tutors.

Yes. Go on.

And that they will soon come to realize that they are not just students but fully participating members of a vital academic community.

Yes.

And that you – that's *you* sir – and your colleagues try to *think* of students as intellectual partners rather than as passive recipients of knowledge.

Maureen?

Yes, Professor Lapping.

Did we fill our quota this year?

Oh yes, sir. Easily.

A level average?

Right up, sir.

More applications than we can handle?

People begging to get in.

Good God. A seller's market at last! Maureen.

Sir?

Forget the letter.

Sir?

Just dash off a quick postcard threatening to expel anyone who turns up late.

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NAB board to ask Sir Keith to withdraw closure list

by John O'Leary

The board of the National Advisory Body, in the first major test of its influence, this week threw down the gauntlet to Sir Keith Joseph, Secretary of State for Education, over his proposed teacher education cuts.

If NAB's committee agrees at its meeting next week, Mr Christopher Ball, chairman of the board, will appeal to Sir Keith to withdraw both his list of recommended closures and his distribution of places between the universities and the public sector.

A two-hour debate at the board refrained from discussion of individual polytechnics and colleges on the list and agreed instead on strong opposition to the whole exercise. Individual cases will be considered at NAB's residential meeting at the beginning of next month.

Members of the board are basing their opposition to the proposed cuts on the damage that will be done to NAB's overall planning for the sector. They want Sir Keith to begin the exercise again, taking into account NAB's views on the repercussions of any cuts.

Mr Ball will also be asked to express concern about the preferential treatment accorded to the universities, about the future of the BEd in the light of the contraction, and about what was considered "precipitate" action in applying the cuts. In particular, it was felt that there had been insufficient debate about the educational criteria for the cuts.

A paper by Mr John Bevan, secretary of the NAB, lists five factors which weighed in the universities' favour at the Department of Education and Science. They are a higher proportion of first or second class honours students on postgraduate education courses; the success of the universities in recruiting for maths, science and modern languages; the continuity of students entering courses where they studied for first degrees; better A level scores among university students; and better qualified staff in the universities.

The paper makes no judgments about the institutions recommended to lose teacher training but hints that NAB itself may have to recommend some closures when the list its finalized. "I should emphasise that it is in my view quite clear that if NAB is to offer effective advice, it must make difficult judgments that extend to offering a considered view on the future of an institution not merely as a centre for initial teacher training, but as a provider of higher education, or, even, as a college," it says.

A circular by the National Association of Teachers in Further and Higher Education to its teacher education branches immediately welcomed NAB's stand on the list. It also claimed that some members of the board considered Sir Keith's actions revealed a lack of concern.

Labour education spokesman, Mr Neil Kinnock, promised this week that his party would help the fight to avert the closure of teacher education at the 16 institutions.

He told a Fabian Society meeting at the TUC in Brighton: "We at the TUC will fight to defend these institutions . . . and we cannot ourselves to the expansion and change of higher education of all descriptions."

The board drew back from its officials' previous recommendation that the planning "scenarios" to be requested from institutions and local authorities should extend to cuts of up to 20 per cent. The exercise will be based entirely on the Government's existing policy of a 10 per cent contraction, but will ask for priority areas should the cuts be more severe.

Those institutions which have their pool contributions "topped up" by local authorities will be asked to plan for hypothetical cuts greater than 10 per cent if they cannot secure a statement that the existing policy is intended to continue.

● **Richard Garner** (of *The TES*) adds: Staff at Cardinal Newman College, Birmingham, are planning to make the threatened closure of their teacher training couses a key issue in a forthcoming by-election campaign. The Tories won the constituency which serves the college – Northfield – with a slender majority of just over 200 in 1979, and a by-election has been caused by the death of Mr Jocelyn Cadbury.

Madeley to close immediately

by Felicity Jones

Fifty students due to start courses at Madeley campus of North Staffordshire Polytechnic in three weeks' time must find place elsewhere following the decision by the academic board to discontinue entry immediately to its teacher training courses and close the college.

The closure will affect 40 teaching and 60 non-teaching staff at Madeley which also provides a degree course in sport and recreation.

The decision follows the Department of Education and Science's inclusion of North Staffs in the list of teacher training centres to be closed. But the decision not to take in students who have already been offered places comes as a complete surprise because a phased rundown was expected with closure not coming for four years.

The polytechnic has promised to try to find the students alternative places and has already contacted the Central Register and Clearing House.

Polytechnic director Dr Frank Dickenson said: "With a £500,000 cut in budget next year and at least the same again the following year, I believe that we stand no chance of meeting those cuts unless we close one of our three sites. Unhappily it will affect a lot of people."

The Madeley site has been under pressure since the merger with the polytechnic in 1978 when the student numbers were cut to 400 making the site unviable. The polytechnic had already decided that it would close in 1987 and discussions were being held to bring that date forward.

This week the polytechnic governors supported the decision to cancel the first year student intake and agreed that the Madeley site should be closed in August 1983 with the transfer of non-teacher training courses to the main Stoke-on-Trent site.

The National Union of Students is fully supporting any student who had been accepted on a course who plans to take a court action.

Face-to-face and eye-to-bruomstick handle, a visitor to Edinburgh University's Talbot Rice Arts Centre views one of the costumes displayed from Peter Greenaway's new film *The Draughtsman's Contract*, premiered at the Edinburgh International Film Festival. The costumes for the film, which is set in 1694 at Compton Anstey in Wiltshire and will be shown on Channel 4, were designed by Sue Blane, who has worked with Glasgow Citizens' Theatre.

Ulster merger: internal candidates come first

by Ngaio Crequer

The Northern Ireland minister, Mr Nicholas Scott, has told the steering group planning the new university that they should look first at internal candidates from the existing institutions when appointing its vice chancellor.

In a letter to Sir Peter Swinnerton-Dyer, chairman of the steering group planning the New University of Ulster and Ulster Polytechnic merger, Mr Scott, said it would be wrong to disregard the general principle of first considering suitable internal candidates.

Mr Scott's assumption of responsibility has pleased the steering group, which was divided over whether to go for open competition or an internal candidate.

But it will infuriate NUU staff who earlier this week complained about the morality of a Government minister effectively appointing a vice chancellor. Dr Cockroft, vice chancellor of the NUU told campus unions earlier this year he did not regard himself as a candidate.

Earlier this week Dr Peter Froggatt, vice chancellor of Queen's University, Belfast, resigned from the steering group, for reasons very different from those given by the minister in accepting the resignation.

Mr. Scott's letter followed a meeting in London on Tuesday with the steering group to try to reach agreement about the new vice chancellorship. Several members of the group favoured open competition.

Mr Derek Birley, rector of Ulster Polytechnic, then called an emergency meeting of his committee of deans, and a deputation went to see Mr Scott. They insisted that the vice chancellor designate should come from the existing institutions, and that Dr Froggatt should be removed from the steering group.

Mr Scott agreed it should be an internal candidate and told the steering group, who registered strong objections. Dr Cockcroft told staff at NUU that he was concerned about Government intervention in university appointments.

The campus unions sent a telegram to Mr Scott saying that any method other than open competition would jeopardise the cooperation of both staff and students at NUU.

Another petition, signed during the vacation by 130 academics, who make up a majority of staff, said they were ready to consider positively and constructively the ways the merger should be brought about. It rejected Mr Birley's suggestions that there was no support for the merger.

Now the NUU will have to seek a successor to Dr Froggatt as one of their nominees on the steering group.

He suggested he could serve on Queen's University behalf, as an assessor, and he repeated that neither he nor Queen's were against the merger.

But in accepting the resignation, Mr Scott said that Dr Froggatt's personal position was made untenable by his university's critical comments on the approach being taken to the merger.

Leader, back page

It's eyes down . . . and a full house

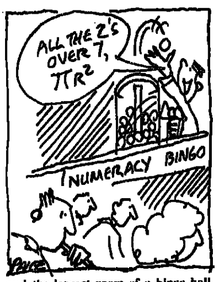
by Karen Gold

Literacy and numeracy classes held in a Sheffield pub and bingo hall have attracted more customers than they can cope with.

The classes are part of a joint project between Sheffield City Council and the Adult Literacy and Basic Skills Unit. They began experimenting with new ways of reaching potential basic education students over a year ago.

Two ALBSU workers who travel round the city's housing estates and terraces, have discovered that door-knocking is the only way to contact people embarrassed about their lack of reading skills. So they have set up classes in unintimidating surroundings.

None are held in schools. Approximately ten have been established in community centres, and where there are none, daytime classes are held in the upstairs lounge of a public house and the largest room of a bingo hall.



Both the brewery and the large leisure firm which owns the bingo hall allow their premises to be used free. The bingo manager even told the literacy workers their publicity was not eyecatching enough – so he redesigned it for them.

All the classes are full. Some have attracted nearly 30 people, others draw 80. Their teaching content is very similar to any other basic education class, according to literacy worker Ken Marks. Only the setting has changed.

"Everything we have tried has worked better than we expected and we are totally inundated with schemes," he said. "What we do when we are set up is very similar to ordinary classes. It just sounds different, so people tend to come.

He added: "That indicates that what we are seeing in literacy classes normally provided is the tip of the iceberg. There are enormous numbers of people wanting to come if classes are provided informally and in the right way."

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Fall in university quality 'inevitable'

by David Jobbins

Even those students who gain university places against increasingly fierce competition will "unavoidably" receive a worse service than their predecessors, the incoming president of the Association of University Teachers, Mr Steve Ruthernan, told the TUC in Brighton this week.

Backing a full-scale attack on government education policies, he said that student-staff ratios, which had fallen by 10 per cent in the past seven years, were being cut by a further 10 per cent.

The effect of Government policies was to deny university places to 44,000 young people in the years 1981-84 and would cost the jobs of one sixth of the AUT's membership and similar numbers of other university jobs, he said.

"The same cash limit has forced us to accept a humiliating salary settlement to avoid putting thousands more jobs at risk," he added.

Competition for places was now so fierce that students with ABC grades at A level were being rejected from some courses. While last year many found places in the polytechnics these were now overflowing, Mr Ruthernan said.

"The chain effect is displacing thousands of youngsters through successive stages of the system on to the streets of Toxteth and Brixton," he said.

Chairman of the TUC education committee, Mr Clive Jenkins, told delegates higher education was "bearing the brunt of the cuts this time round".

He added: "We are witnessing a devastating onslaught on universities, polytechnics and other institutions."

He pledged TUC support for radical changes in higher education to widen opportunities, arguing that the falling number of 18-year-olds in coming decades offered an opportunity to open the doors.

The composite motion passed by conference specifically attacked the Government's decision to cut back teacher education.

The National Association of Teachers in Further and Higher Education successfully moved a resolution calling for a right to paid educational leave for all. Its general secretary, Mr Peter Dawson, told delegates: "Let's set our sights on the attainable objective of the right to education and training for all adults."

The plan, supported by steelworkers' leader Mr Bill Sirs established a "coherent and properly planned programme" without affecting the grants system for young people.

"It says no to confusion, piecemeal policies, and the downright meanness of the present Government's attitude," Mr Dawson said.

"It seeks to ensure resources are provided," he added. "It says no to new fancy jargon like self-financing which really means an opportunity put beyond the reach of ordinary people."

Trent Poly fights for housing

by Felicity Jones

Students at Trent Polytechnic hope to reverse the local education authority's decision to reject proposals to buy a women's hospital and convert it into student accommodation.

Shortage of living space has plagued Trent, along with many other polytechnics, for some years. It has just over 1,000 places in hall to cater for 6,500 full-time students.

At one time there were plans for a student village but cutbacks meant that successive plans were eroded and eventually an accommodation working party was set up.

When the hospital in Peel Street, Nottingham, just across from the existing student residence, became vacant the working party recommended to the polytechnic council that the site should be bought and converted.

The site included a nurses' home which would have immediately housed 60 students and hospital facilities which could be converted into more rooms.

The recommendation was accepted by the polytechnic's council which is chaired by the education committee chairman, Councillor Fred Riddell. Polytechnic director Dr Ernest Hireman said the site was "ideal" particularly when the area health authority reduced the asking price from £475,000 to £225,000.

But when the education committee considered the purchase in July, it turned it down mainly because it would mean extra expenditure on the education budget.

Mr Riddell was quoted in the local press as saying that he did believe that the accommodation was as bad as suggested.

The president of the students' Mr Tony Frost said that the "one or two rooms in the hos had not given up on the site so still for sale.

"It is ideally situated and ... ably priced and if the education ... mittee can turn this down w ... little hope for a solution to our ... lems," he said. The students are ... sidering trying to find a benef ...

Further support has come fr ... city council and the city pl ... officer.

The students say they are pre ... to live in accommodation which ... else is prepared to touch and de ... better consideration from the ... authority.

de Bono takes to the air

Switched-on thinkers have their own BBC series from this week, presented by Dr Edward de Bono, and accompanied by a book called *de Bono's thinking Course*".

The series of the same name comes from the BBC's continuing education department. The first of the ten programmes went out on Wednesday at its regular time of 7.45 pm on BBC2.

They confront Dr de Bono with a studio audience drawn from schools and organizations in Manchester where the series was recorded. The first problem to arise was a significant difference in the performance of one group of schoolchildren doing Dr de Bono's thinking activities, from everyone else. It turned out that they had taken lessons from the Cambridge based Cognitive Research Trust where he works.

Each programme develops one stage in forms of thinking which are tested by the studio audience: PMI Plus, Minus and Interesting; APC, Alternatives, Possibilities and Choices; FGI, a common decision-making method which stands for Fear, Greed, Laziness.

Thinking, Dr de Bono argues, is not a gift but a skill. He hopes to follow up the series by encouraging the formation of thinking clubs and includes a sample agenda and structure for such a club at the end of his book.

***de Bono's Thinking Course* costs £3.75 and is published by the BBC.**

Confusion over AUT candidates

Union leaders fear that the se... for a successor to Mr Laurie S... as general secretary of the Asso... tion of University Teachers c... prove inconclusive when final c... views are held in less than ... weeks' time.

Of the four remaining candid... to be interviewed by the execu... two are internal. Deputy gen... secretary Mr John Akker and ... Andrew Taylor, chairman of the ... tion's salaries committee, will be fa... ing their first test, having skipped the first round of interviews by ... selection committee.

The two outsiders are Ms Chris... Warwick, assistant secretary of the ... Civil and Public Services Associ... tion and Mr Peter Smith, deputy general secretary of the British Ai... line Pilots' Association.

Under the procedure, the exec... tive will make its choice immedia... by the interviews are over, and sub... forward the name of the successf... candidate to the union's December council meeting for ratification.

But it is not empowered to make an appointment if the winner at the end of a round of exhaustive ballo... ing fails to secure more than ha... the votes. Because of the mix of professional and political characte... istics of the four candidates and the political balance of the executive, this could be considered a distinct possibility.

The procedure would then be reopened, and applicants who failed to reach the shortlist would be asked if they were still interested.

NUS row over chief executive's 'perks'

by David Jobbins

The National Union of Students runs the risk of bitter disaffiliation battles in the coming months as a direct result of deep discontent among its headquarters staff.

Internal problems have already led to the resignation of one of NUS's three trustees, Ms Jo Richardson. Other NUS staff have left in recent months complaining about current management.

This stems from the union's effort, begun by the previous Left Alliance leadership, to shrug off the amateur approach to providing services for students and introduce an more cost effective, professional management structure.

A year ago, the union appointed a chief executive, Mr John Garner, 43, with an unprecented salary and conditions of employment. His £20,000 a year salary is index-linked: NUS pays his subscriptions to professional organizations, and has made available a loan at "nominal" interest to buy a car.

Until June NUS also put Mr Garner up in a Bloomsbury hotel while he attempted to sell his house in Bury, Lancashire and paid his rail fare home each weekend.

When he found difficulty in selling his house, the NUS executive agreed in February to buy it to facilitate his move to the south.

Proposals for NUS to provide a bridging loan were rejected, and the house has been bought reportedly for £40,000.

Although the proposal to buy the house came under the previous regime, prominent members of the current Labour Students leadership then on the executive voted for it. One abstained, and another current executive member opposed the move.

NUS staff have been reluctant to make use of the information they have gathered out of loyalty to the union and the knowledge that it would be highly useful to anti-NUS campaigners arguing for disaffiliation.

The executive is now deeply divided. Some members feel that the affair should be played down in the hope that it does not become a major issue at the December conference, while others believe it should be brought out into the open as soon as possible to avoid a head of steam building up in the colleges in the early weeks of the new academic year.

NUS president, Mr Neil Stewart, is unable to discuss the terms of Mr Garner's appointment because of staff protocol guaranteeing confidentiality. But he said this week that the executive had endorsed a management plan largely drawn up by Mr Garner in August.

"Mr Garner is staying," he said.

Although complaints have been lodged, Mr Stewart said there was no dispute with the staff's trade union group, and added that matters would be resolved in the next few days.

The affair will be discussed at a meeting of full-time executive members next week.

Adult education unit gets reprieve

The Scottish Adult Basic Education Unit, due to close early next year, will continue at least until March 1986, Scottish Education Minister, Mr Alex Fletcher, announced this week.

Speaking at a reception in Edinburgh to recognize International Literacy Day. Mr Fletcher said the Government was making the extra money available for the unit to continue because there was no doubt that illiteracy among adults was still a serious problem.

The lack of skills needed for filling in forms, for example, prevented many people from making the most of their opportunities and capabilities.

Mr Fletcher saw a particular role for SABEU in helping the unemployed and those hoping to improve their job prospects.

The Government's commitment to basic education was only sustained by the efforts of volunteers and local authorities, under-secretary of state for education Mr William Shelton said this week when he opened a special exhibition to mark International Literacy Day.

The exhibition displays literacy and basic education projects supported by the Adult Literacy and Basic Skills Unit throughout the country.

It will travel to various venues from the London International Press Centre where it opened, together with a new tape slide sequence made by ALBSU for use with local groups.

Included in the display were copies of the special National Literacy Week newspaper, *Literacy*, which has been distributed by the newsagent chain W. H. Smith. All 250,000 copies have now gone out, and telephone calls asking for help with reading or offering to act as a tutor have blocked the unit's switchboard all week.

Leader, back page

Job rescue talks begin at Bradford

Attempts to save up to 120 Bradford College lecturers from redundancy began this week, following its merger with Ilkley College.

Bradford Council has served notice under the Employment Protection Act that it is seeking to reduce total staff at the two institutions from about 600 to around 480 as part of its regional review of higher and further education. This will mean £400,000 a year less for the sector over the next three years.

The notices have been sent to the Secretary of State for Education and to representatives of the National Association of Teachers in Further and Higher Education, as required by the Act.

The council stressed this did not mean it was committed to 120 redundancies. Notice was given as a prelude to formal consultative talks which began on Tuesday. Both Ntiffhe and the council agreed last June to aim to settle the talks by the end of October.

Bradford Council has a policy of no compulsory redundancies. But in 1978 when Bingley College of Education was merged with Ilkley College of Education, a few lecturers did lose their jobs compulsorily.

Ntiffhe said this week it would press for any jobs lost to go voluntarily, or by redeployment.

The redundancy talks follow official confirmation last March of the controversial merger between Bradford and Ilkley after 18 months of allegations and counter allegations about improper conduct.

Discussions about the number of sites to be used by the new larger institution are still under way. The redundancy talks are likely to focus on questions of early retirement, the timetable involved, and the shape of the new institution.

UCCA clearing vacancies down

There are fewer places in the universities' clearing system this year, but there are still some vacancies, the Universities Central Council on Admission has told schools.

There is a shortage of well-qualified applicants for pharmacology, and there are places for candidates with good language qualifications, particularly in classics and Russian. There are few vacancies in English (and combined courses), accountancy and law.

In arts and social studies UCCA says it will be difficult to place candidates with low or moderate exam grades. In medicine, dentistry and the medical sciences only a few applicants with very high grades are likely to find places.

In sciences, grades required are higher than last year. In technology, competition is keen in aeronautical, electrical and mechanical engineering, but there is a shortage of suitably qualified candidates for metallurgy.

Applications for entry this autumn are three per cent up on last year but UCCA says it is certain the number placed will be up to 3,000 less than in 1981.

Jon Turney reports from the British Association for Advancement of Science meeting

Psychologists accused of moral depravity

A group of investigators who object to objectivity put their ideas about the proper conduct of research to the psychology section of the British Association. And the psychologists who work with what they call "new paradign" methods backed their new programme with attack on traditional approaches to psychological inquiry.

Mr John Heron of the British Post Graduate Medical Federation said they had four main objections to standard academic research in the field; its objectivity, hypocrisy, moral depravity and political evils.

Children were taught to abandon their naively subjective investigative instincts and embrace objectivity as the foundation of scientific laws, said Mr Heron. "But if you want to treat human beings objectively you immediately produce a relation of master and slave."

Objectivity produced dead knowledge which could not be used because it dealt with subjects who had become objects, and were less than human beings. New paradigm researchers sought to use a disciplined subjectivity, or to be subjectively objective, using their intuitions and feelings as well as more conventional scientific data he said.

Traditional psychological research was also hypocritical, he maintained. In orthodox science it was supposed to be important to do proper sampling, but few papers paid any real attention to this. And few psychologists cared about the lack of use made of their research, so long as they achieved publication.

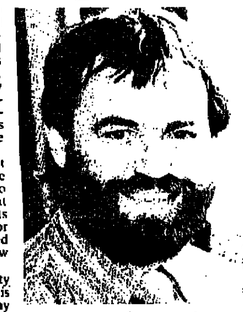
Moral depravity arose through habitual deception of experimental subjects, especially in social psychology. Psychologists would spin subjects any old yarn to draw their attention away from the real purpose of an investigation.

To overcome these defects the new paradigm group proposes a model of "cooperative experiential inquiry". Their manifesto calls for research to be viewed not as a neutral value-free enterprise but as always supporting or questioning something.

From this standpoint, the normally exclusive roles of researcher and subject should give way to a more cooperative relationship, all parties should contribute to the creative thinking that goes into research.

The manifesto says, "we don't want to give up important ideas like truth and checkability, but we do want more people to recognize that these things can have human costs when they are narrowly applied. For too long social science has treated like things, and we are going on now to treat them like people.

Dr Peter Reason of the University of Bath said that work based on this approach was already underway throughout the world.



Peter Reason: new approach

Geology hampered by funding

A call for changes in government funding of the earth sciences came from Professor John Sutton in Imperial College London in his presidential address to the geology section.

Professor Sutton said that the application of the Rothschild customer-contractor principle to the Institute for Geological Sciences seriously hampered the British effort in this field.

The institute is funded through the Natural Environment Research Council, and about 40 per cent of the council's funds come through government departments rather than directly from the science vote. As a result about 70 per cent of the IGS income arises through commissions from departments with an interest in NERC work.

Professor Sutton said short-term planning of commissioned research meant too little provision for basic and strategic research in geology was made. It was ironic that the country which first set up a geological survey in the nineteenth century was now the only one which funded its natural survey in this way.

The history of geological survey work showed that success came from an accumulation of data and expertise coupled with an anticipation of national needs. This was how geological work had been done before Rothschild's times and it produced great benefits.

New programmes such as research into radioactive waste disposal, geothermal power or uranium deposits in Britain would all probably have been undertaken by the IGS under the old system, after discussion with the relevant departments.

Professor Sutton concluded that the country would get better value if the commissioned research was reduced to specific undertakings where solutions to short term problems were required but the planning of the IGS on strategic and tactical search were left in the scientists hands.

In the same session. Mr Richard Macrory, also of Imperial College used one of Professor Sutton's examples to raise another vexed question involving geologists and the state.

He warned that geologists doing field research on the burial of nuclear waste could become involved in non-violent action by protestors.

Mr Macrory a lecturer in environmental law and policy said that public enquiries into applications for test drilling raised too many expectations, and could damage public confidence in the planning system.

Although the programme of test drilling to find sites for disposing of radioactive waste had been stopped by the Government, it was likely to resume one day. When operations started again, geologists would do well to make sure they knew the law, where uncertainties abounded.

Leisure and work patterns 'must change'

In future the relationship between education, work and leisure will be different, Mr Kenneth Baker, Minister for Information Technology and Industry said in a public lecture. Old patterns can now be broken, with work and leisure intermingled and education continuing throughout working life, he added.

In fact, education, training and retraining will become more important as the nature of work changes, people have more non-working time to fill and the pace of technological change increases, Mr Baker said.

However, he emphasized that information technology is not just for the gifted: "no one should accept the superficial argument that in order to understand these technologies you have to have a double first."

The Manpower Services Commission information technology centres, for example were specifically designed to train 16 to 19-year-olds who were unemployed and often unqualified, and the results had been immensely encouraging.

Mr Baker said that this programme should be extended, as he foresaw a growing need for training and retraining of this sort. But this training should not be confined to school-leavers, it needed to start much earlier. "Within five years I'd like to see a microcomputer in every child's satchel," he said.

Mr Baker was, as ever, optimistic about the other changes that information technology would bring in its wake. By the time these children grew up, the information society would be better informed, more relaxed, less formal and more mobile, he said. And it would be more skilled, less class ridden and full of scope for more individuality – in short, a better place.

Plea for cut in overseas fees

Fees for overseas postgraduate students must be cut if Britain is to maintain its contribution to world medicine, Sir Douglas Black told a biomedical sciences division session on exporting medical science and technology to the developing world.

Sir Douglas the president of the Royal College of Physicians, said that our success in promoting medical science overseas in the past stemmed from the liberalism of our university system, which encouraged curiosity and invention, and our colonial responsibilities.

There were once two prerequisites for high office in developing countries – attendance at a British university or time spent in a British prison, preferably both. "It makes me sad that our preeminence is now threatened in a number of ways," he said.

Britain still had a great deal to offer the developing world, but positive action was needed to ensure our position did not decline.

So we must abandon the imposition of so called "realistic" fees for overseas students as soon as resources permitted. Britain should also develop two-way sponsorship schemes in medical education and research and help developing countries set up their own schemes of general professional training, he said.

This would eventually mean that overseas doctors would only need to come here for higher training in a few specialties. We must also retain our own capability in medical research on problems of developing countries. Sir Douglas added.

If we did all these things, Britain could retain its place in world medicine, which conferred political advantages as well as its general humanitarian value. And we also needed to look carefully at the kind of technology we transferred to the third world, which complemented shared scientific knowledge.

"We are quite willing to share the technology of death with these countries, but less keen to transfer technology which saves life," he said.

To sleep, perchance to nap

Napping is often seen in British Association lectures, but listeners to one speaker heard that a brief sleep is little more refreshing than simply resting for a while. Dr Jane Percival of Loughborough University told the psychology section between 78 per cent and 55 per cent of the population sometimes took a nap and that some researchers divide nappers to appetitive and replacement nappers.

The former nap because they like it, while the latter need to catch up on lost sleep. Laboratory research on appetitive nappers can help test the value of their habit.

Dr Percival's study used psychological measures to compare performance on two groups of nappers and of subjects who simply rested without closing their eyes.

Her results showed that a nap is no more beneficial than the same time spent resting in bed. However, independent studies carried out at the meeting showed that napping can be remarkably effective in speeding up the passage of a lengthy presidential address.

Cold fishy pulse set racing

Surviving under water is hard work, even for fish. This finding was reported to the zoology section by Dr I. G. Priede of the University of Aberdeen, who studies aquatic life using electronic listening devices.

Dr Priede said that fish biologists used to spend most of their time at their desks analysing catch statistics and spent very little time actually watching fish because of the creatures' inaccessibility.

But the development of miniature acoustic transmitters which could be attached to individual fish meant that the scientist could monitor swimming speed, heart rate, salinity, oxygen, pressure and temperature.

The information relayed gives a picture of the environmental stress the fish encounters, and it turns out that cruising through the depths is not as relaxing as it might appear.

Studies have shown that the trout, for example, tries to maintain an even heart rate, but responds to stimuli like the sight of an angler's cast with a fast beat.

Interference by the experimenters increased stress. For example, if a brown trout is caught, tagged and replaced in a strange part of the loch, its heart rate stays up until it finds home territory again.

Analysis of the fishes feeding potential and metabolic activity revealed that they need to keep their power output to moderate levels to allow a margin of safety for sudden extra demands.

Most fish studied swim quite slowly – often less than one length per second – which is consistent with this interpretation of their other habits. Some have evolved elaborate strategies for covering long distances with minimum effort. The migrating plaice, for instance lies on the sea bottom during adverse tides and swims on when the tide is favourable, much as inshore sailors do.

All this is of interest to fish farmers, trawlermen and anglers, as well as zoologists. And just in case anyone doubted that fish are now fully paid up members of the information society, Dr Priede also described a study in which a shark was tracked by satellite using a radio beacon.

Rise and fall of the scientific hemline

Science is just as subject to fashion as the arts, according to Professor Helmut Kirchner of the University of Vienna.

In particular, the rise and fall of physical theories caould be seen as analagous to the appearance and disappearance of fashion, he said.

He drew on recent philosophy of science to support this view, notably the work of Thomas Kuhn and Paul Feyerabend. For instance in Professor Kirchner's vision of Kuhn, he said: "A particular theory loses appeal not because it cannot explain new phenomena or because it answered all the open questions. It is because people lose interest, their frames of mind change."

The outcome was that the advance of science was not as rational as people thought. The lies of computational proofs in mathematics or the oscillation between discrete and continuous theories of matter were both good examples of the influence of fashion.

But the ruling fashions were not necessarily determined by scientists, as outside economic and political influences affected both science and art. "A particular line of research swims in money because some bureaucrat decided it should be a thrust area," Professor Kirchner said.

Today "big science" was in vogue, and small scale work often neglected, largely for historical reasons which had little to do with the internal logic of science.

For example the decision to boost reactor physics after the last war was not a rational scientific or economic choice, he said. It was the result of the rational efforts of the people in weapons programmes to keep their jobs in peace time.

Sometimes a vested interest grew up for valid scientific reasons, but took on a new life of its own, as happened with the building of big accelerators. Professor Kirchner believed that the reason the European Centre for Nuclear Research (CERN) kept growing was its very existence.

"The existence of such supranational research institutions has become a political necessity and *credo*," he said. "Research must go, new particles must be discovered, energies hitherto unreached must be attained."

As a result, a large scale enterprise, where the experimental set-up measured a few miles in diameter, often had fewer funding problems than one where the apparatus was only inches long. In physics, big was beautiful.

The experiment needed to find magnetic monopoles, had important theoretical implications and only needed a few super conducting coils. They were poor man's physics.

But they could not excite public examination as much as the large machines because although the work was just as fundamental, it was less given to popularization and vulgarization.

In Professor Kirchner's view, this might not matter greatly, as the idea of scientific progress was in any case ill-defined: Science had no clear goals.

Conference

THE INSTITUTE OF MATHEMATICS AND ITS APPLICATIONS

Conference on

THE TEACHING OF MATHEMATICS AND ITS APPLICATIONS

September 22–24th, 1982

University of Bath

This conference will concentrate on teaching mathematics and its applications to students at universities and polytechnics.

Sessions include background and national needs, modelling and applications, and the balance of areas of mathematics in the course.

Speakers:

Professor Sir Hermann Bondi FRS (NERC)
Dr R. C. Faust (Shortleo)
Mr A. S. Noble (Debenhams)
Professor J. Spanier (Claremont, USA)
Dr J. Andrews (CEGB)
Dr J. Hammersley (Oxford)
Dr A. B. Taylor (Oxford)
Professor R. A. Cunninghame-Green (Birmingham)
Professor M. J. Sewell (Reading)
Dr R. Harding (Cambridge)
Professor C. A. Rogers (UCL)
Dr C. T. H. Baker (Manchester)
Professor J. D. M. Wright (Reading)
Professor K. W. Morton (Reading)
Dr M. Thorne (Castell)
Dr R. W. Hiorns (Oxford)
Professor P. Whittle FRS (Cambridge)
Professor K. Binmore (LSE).

Further details from the Institute of Mathematics and its Applications, Maitland House, Warrior Square, Southend-on-Sea, Essex, SS1 2JY. Tel: (0702) 612177.

FCS urges ban on student 'closed shop'

by Karen Gold

A scheme for dismantling compulsory student unions and transferring most of their activities to college or university authorities was put forward this week by the Federation of Conservative Students.

Hailed by FCS chairman Mr Brian Monteith as the answer to "the obscene abuse of public money" in student unions, its pamphlet *The Forgotten Closed Shop* compares compulsion to join a student union with practices in Nazi Germany. It cites a series of activities such as *ultra vires* donations and political affiliation by "ruthless left wingers" to support its case for reform.

The pamphlet proposes splitting in half the present local authority grant to student unions – on average £50 per student per year. Half would go to the college, to help continue student facilities such as welfare, housing support and capital expenditure on leisure and sports activities.

The money would be administered by a committee of directly-elected student representatives and appointed staff members. The students would be in the minority.

The rest of the money would be added on to student grants, to be spent however the student chose – perhaps as a subscription to a voluntary student union.

The pamphlet's authors, Mr David Neil-Smith, a councillor for the London Borough of Camden, and Mr Nicolas Gibb, former chairman of the FCS student affairs committee have sent it to the Secretary of State for Education, Sir Keith Joseph.

Mr Gibb resigned last April following a row over forged signatures on nomination papers for five anti-National Union of Students candidates at the NUS executive elections. A complaint has been lodged by NUS with the police.

According to Mr Monteith the scheme may be discussed at the FCS half-yearly conference this weekend. He and the authors argue that it solves the problem of the 1978 Bill proposed by Nicholas Winterton MP calling for the straightforward abolition of student unions. This failed because it would have caused student services to collapse.

They claim support in principle from both the Prime Minister, Mrs Thatcher and Sir Keith. But they acknowledge that the Minister directly responsible, Mr William Waldegrave, under-secretary of state of Education, is still unconvinced that student unions have trade union status and are therefore operating a closed shop.

They also claim most students would support the abolition of compulsory unions, and in particular the end of the system's 500 sabbatical officers – a source of considerable scorn in the pamphlet. But Mr Gibb agreed that they had collected no evidence of this.

The changeover to the new system would take two years. In the first year each institution would receive half the previous year's block student union grant. Subsequently the students' half would increase by the percentage increase in the student grant, while the institution's increase would be the same amount as the increase in its own grant from the local authority or University Grants Committee.

Political activity would still be outlawed by any student group that received public money from the institution's committee. This arrangement would tighten up *ultra vires* restrictions on student groups which, according to Mr Monteith, have been relaxed since the Government changed the student union finance system in 1979. No student group would have a right of representation to the college authorities unless one third of the student body were members.

Tories consider constitution changes

by David Jobbins

A new constitution aimed at making the leadership of the Federation of Conservative Students more accountable to its members is to be put to the organization's half-yearly conference tomorrow.

But it is not yet clear if it will be acceptable to the conference in Cardiff – although it was drafted by a working group from the higher echelons of the parent party.

The most contentious proposal is that the ability of conference to elect an all powerful national committee should be diluted.

Instead of the present 11-member committee, all elected by conference, the draft proposes that only the chairman and five vice-chairmen would be directly elected. The rest of the enlarged committee would be composed of the 13 regional chairman, who are elected by their regions at various points throughout the year.

Critics point out that not only would this mean that the complexion of the national committee would be almost constantly changing, but that the regional chairmen could outvote the officers elected by conference, producing a constitutional deadlock.

But if this element were to be dropped tomorrow, it is open to question whether the remaining reforms would be enough satisfy student Conservative associations who have threatened to break away from FCS if rapid steps are not taken to restore credibility, dented by bad publicity and a critical internal report.

Other proposals which are likely to prove generally acceptable include a larger entitlement to conference delegates to the larger associations, an increase in the threshold for affiliation from five members to 15, nominations for the national committee closing a week before conference instead of the night before, and abolition of the student affairs committee.

Research exchange needed

by Paul Flather

An academic "clearing house", where research projects in need of finance could be matched with grants, should be set up immediately.

That is the view of Professor Michael Beenstock, professor of finance and investment at City University, who believes large sources of private funds are not tapped by academics who do not know where to find them.

Professor Beenstock strongly rejects the judgment of Lord Rothschild in his recent report on the Social Science Research Council that "when one examines the work of the SSRC, there is very little to which the customer-contractor principle can be applied".

He believes there is room for a considerable expansion of economic research in particular – his field of work – based on the customer-contractor principle, although this is obviously not true for all research.

"In the past the trouble has been that contractors have not known who their potential customers might be and the customers have been even less aware of who the potential contractors might be. The clearing house would being together both sides of the research market," he said.

Professor Beenstock, who worked for the Treasury and the World Bank before joining City University in 1981, makes his proposal following his own experiences raising funds in the City and from industry to back his new unit, the City Institute for Financial and Economic Research (CIFER).

He said it was difficult knocking on the doors of financial institutions and industrialists with a briefcase full of papers. But by his efforts he managed to raise enough funds in 12 months to fund a seven strong research team at CIFER.

He has received some backing from the Treasury and from the Bank of England. No money has come from the City University block grant but from next year CIFER will receive £43,000 a year for two years from the SSRC for work on macroeconomic modelling of the UK economy.

The clearing house would have a dual role – to keep a list of customers and contractors and their needs and interests, and would help to match both sides of the research market. It would be financed on a commission basis and contracts would be awarded in the normal way.

In a more active role, it would try to drum up financial support from specific bodies such as the banks or the accountancy bodies. Giving tax relief to firms supporting research could encourage fundraising.

He said the clearing house could be set up by the SSRC which already has the appropriate structure, or one of the research foundations. "At present SSRC spends about £2m on economic research. I have little doubt the clearing house could easily double this figure."

Professor Beenstock firmly believes that universities are the most efficient place for conducting research. They tend to be cheaper than the private sector or government departments, and university staff are usually more up to date with their subjects.

Medical schools' cuts ignored financial facts, says professor

The selection of five medical schools for above avarage grant cuts last year took no account of their financial position, according to an analysis published last week.

Writing in *The Lancet*, Professor John Mitchell of the Department of Medicine at Nottingham University Hospital says that the University Grants Committee's calculation of unit costs per student makes the reason for above average cuts evident.

Five of the top six medical schools in this ranking, including Nottingham, were held to be over funded – the exception being London, which is given a global figure.

But this ignores the fact that the schools receive widely different levels of support from National Health Service budgets, which also contribute towards teaching costs.

According to Professor Mitchell, the financial health of a teaching centre depends on the sum of the NHS and UGC funds available and. "It is the astonishing failure of the UGC to recognize this which bears so hard on some of the new schools".

He has, produced a different league table, based on total costs per student from both sources, which moves Nottingham from fourth most expensive to exactly half way down the list. Oxford, Cambridge, and Southampton, which also suffered excess cuts, are still in the top six, but the fifth school penalized by the UGC, Leeds, moves to the bottom.

Professor Mitchell says this is the form in which information about medical school finance should have been presented to the Treasury. "Yet until I prepared this table, I had seen nothing which resembled it in any of the evidence submitted to the various committees."

He adds that inquiry of the parliamentary Social Services Committee, chaired by Mrs Renee Short, showed that the UGC did not grasp the consequences of its actions or communicate effectively with the Department of Health and Social Security.

Professor Mitchell believes that the best solution is for a measured level of protection for clinical medicine in future UGC allocations, as the Short committee recommended.

Some 75,000 people in 15 towns and cities are expected to see this year's Institution of Electrical Engineers Faraday lecture, which begins its five-month tour on October 5. The Photon Connection, illustrating the uses of fibre optic communication, will be presented free two or three times a day.

Sir Kenneth Corfield, chairman and chief executive of Standard Telephones and Cables, which is sponsoring the lecture as part of its centenary celebrations will head the team of lecturers. The photograph, of optical fibre production at STC's Harlow factory, will be one of the many visual aids to the talks.

Ariane boosts space research

The launch of the European Space Agency's rocket Ariane in French Guiana today should be a welcome boost for British space research.

If all goes well, Ariane will lift two satellites into orbit – Marecs B which will join the INMARSAT marine communications network, and the Italian Sirio-2, which carries scientific experiments.

The launch has been delayed since April to allow time for modifications to the mainly British built Marecs B, after initial problems with the first Marecs satellite when it became operational earlier this year.

British Aerospace and Marconi, the main contractors, are confident the modified systems will work smoothly, and Mr Kenneth Baker, Minister for Information Technology is enthusiastic about the prospects for satellite contracts.

He said last week that the Marecs launch meant "Britain's space age has now arrived". Mr Baker added that Britain's effort in space was an excellent example of cooperation between industry, government and academics.

He confirmed that one area where the Department of Industry hopes to encourage this cooperation in future is satellite remote sensing.

A report on remote sensing projects, for surveys of land and sea from satellites, is under consideration by the department, and an announcement will be made this autumn.

Mr Baker will shortly be meeting Canadian officials to learn of their experience in remote surveys of crops and forest resources and explore their commercial viability.

One potential problem with the development of remote sensing will be conflict between owners of satellites and countries coming under the orbital eye. Some third world countries proposed at the recent Unispace conference in Vienna that there should be a statutory request for consent before data analysis of their territories.

However, Mr Baker said last week that this would hinder university research using satellite data, and that a national right of access, rather than consent, would be sufficient protection for the interests of states without space vehicles.

Engineers need practice too

by Ngaio Crequer

Active participation in practice should be as necessary in engineering and technology as it is in clinical medicine, says Professor Alexander Chisholm, research professor in engineering at Salford University.

Professor Chisholm, writing in this month's edition of *Chemistry and Industry* describes the achievements and experience of Salford's Industrial Centre, of which he was chairman from 1969 to February this year.

He said the wider opportunities the centre provided for teaching staff to work with industry and commerce had had a strong influence on their teaching and research, especially in engineering design and manufacture.

Participation by teachers in scientific research was not enough, nor was depending entirely on postgraduate "training" in industry after a three-year engineering degree. Instead, Britain must move urgently to establish professional schools of engineering and technology, so that graduates are properly prepared and industry's stock of labour can be given the upgrading required.

He said a balance must be struck between basic and applied research in universities. Following the increase in universities and polytechnics in the past 40 years, "there are far too many physical scientists, technologists and engineers who claim the right to do research undirected and in freedom, without regard to practical or economic goal," he said.

"Too many think or hope that perchance they may make Rutherford-like discoveries, and they influence their students and graduates accordingly, making them on the whole less useful in the processes of wealth creation."

He said working with an industrial centre was a strong antidote to this academic approach, which might be why so many university staff consider industrial centres undesirable.

"Too many university staff retain an out-dated conception of the proper role of universities in the modern harsh economic world; and this is still reflected in academic counsels," he added.

It's playtime for the handicapped

A travelling exhibition of playaids for handicapped children from Newcastle Polytechnic will visit Leeds, Bristol, London, Birmingham and Edinburgh this winter. The polytechnic's handicapped persons' research unit has organized the exhibition and designed some of the toys.

Tactile jigsaws, soft air mattresses and electronic games are some of the playaids which are designed to stimulate the potential of children with various handicaps.

The unexpurgated version . . .

by Felicity Jones

Frank views from former students are included in the new prospectus published by Leicester Polytechnic. They were asked what they felt would be helpful for intending students to know.

And some of them haven't held back in expressing their views.

Anne Cullis, a student in the history of art and design stresses the need for self-motivation. She said: "When I first came on the course I didn't like it because it was very academic compared by my foundation course, and because the first year work tends to be boring and difficult to understand."

"Some students, myself included, think that the course tends to be too elitist and centred on great works of art and that more attention should be paid to wider areas".

Another student, however, corrects the balance: "I think that the best thing about the course is that it really does give you a great awareness visually."

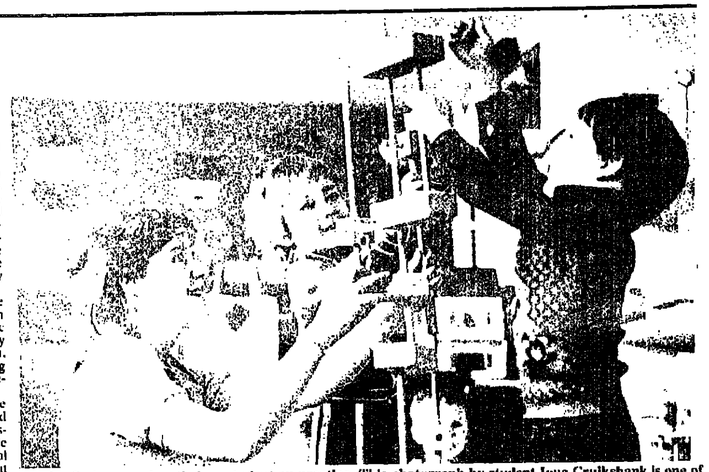
A business studies student admits that her degree was hard work and says: "A lot of reading is expected from students in the second year; as for the first, the load of work may cause students to feel under pressure at times."

Criticism of the "not brilliant" sports facilities comes from a public administration student. Ken Mounter says: "We have only one squash court; however, we do boast the BPSA squash men's team champion 1981–2, as well as the individual ladies' champion."

Facilities are also criticized by a student on the performing arts course. "Although we have a dance studio, drama studio, theatre and music practice rooms, there is a distinct lack of rehearsal space – resulting in many rehearsals taking place in lecture rooms. Students must be prepared to work anywhere at any time."

By no means all the comments are critical. Some are couched in such glowing terms as that of electronic engineering student Julian Woolley who says the course was "modern, up-to-date, fast-moving, keeping closely in touch with industrial developments".

The polytechnic hopes to organize a travelling schools exhibition based on the photographs used in the prospectus. It said: "Even after a decade there is a marked absence of real information in schools about polytechnics which this exhibition might go some way to correct".



Carolyn Seal, a speech pathology student on practice. This photograph by student Iona Cruikshank is one of several published in the prospectus.

New PhDs 'could lower quality'

by Paul Flather

New American-style PhDs with more emphasis on taught work and quick completion could threaten the quality of postgraduate research in the social sciences and humanities, an Oxford University professor has warned.

Professor Peter Matthias, Chichele professor of economic history and fellow of All Souls College, said concentrating on purely quantitative matters such as the failure to complete a PhD and the late submission of a thesis greatly undervalued the qualitative aspects of the research.

Completion and submission rates of PhDs are currently being closely scrutinized by Government ministers. Two recent reports, on postgraduate training by a committee headed by Sir Peter Swinnerton-Dyer, and on the Social Science Research Council by Lord Rothschild, discussed the need to speed up completion.

The SSRC has already said it will publish annual tables of the submission rates of PhD students, following the example of the Science and Engineering Council. It has indicated it might withhold quota research awards from universities which did not reduce their submission rates sufficiently.

One SSRC survey revealed that three out of five social science students had not submitted their PhD six years after first starting their research. Students receive three years support from the SSRC.

Professor Matthias, in a paper on the role of postgraduate degrees, listed five mitigating reasons why late submission might be acceptable, including the fact that many late theses were of a high quality, perhaps higher on average than those put in at the time.

Figures compiled by Professor Matthias show clearly for the first time that social science graduates at Oxford University take 5.9 years on average to complete a PhD, more than a year longer than natural science graduates, who take 4.7 years on average. Students in economic history take 6.2 years on average, compared with an average for all subjects of 5.3 years.

He said some students were offered teaching posts early, leading to delays in the completion of their degrees, while others set very high standards for themselves, taking longer.

"The great emphasis placed on a submission without delay by both the Swinnerton-Dyer and Rothschild reports might well threaten quality and also sharply increase the rate of failure, which the reports are not so concerned about," he writes.

He said he was not convinced about the good record of completion attributed to American-style PhDs, and he agreed with Lord Rothschild that a reformed PhD would be "directed towards competence rather than originality".

Professor Matthias, however concedes the need for some reform, and advocates the Oxford-style MPhil with its combination of taught courses and a thesis of up to 50,000 words as a way of providing the training needed for researchers without compromising academic standards.

Students fear for value of courses

by Ngaio Crequer

Students embarking on three year degrees are worried that the courses they take may become diminished in stature by the time they finish them, a careers adviser warned last week.

Mr Brian Heap, a careers teacher at Hutton Grammar School in Preston, Lancashire, expressed the fears of students at a press conference to launch the latest edition of his book, *Degree Course Offers, 1982/83*.

A new aspect of the book is the information, where known, on which universities will accept A level passes adding up to the same Universities Central Council on Admissions points score, and which insist on the actual grades offered.

Competition is so intense that to prevent over-reaching of targets, some admissions officers are having to be very strict over grades, sometimes with the result that candidates with a higher UCCA score than that demanded, are being rejected. Mr Heap called 1982 "the tragic year of the grades".

The accompanying table, shows the fluctuation in grades offered universities and polytechnics over the last five years. In each case the highest and lowest offers are quoted and the subjects starred indicate a particularly marked rise.

Subjects which are increasingly popular in both the universities and polytechnics are biochemistry, business studies, computer courses, civil engineering, electrical engineering, law, materials science, and mathematics.

	UNIVERSITIES 1977/78	UNIVERSITIES 1982/83	POLYTECHNICS 1977/78	POLYTECHNICS 1982/83
Accountancy	12-6	13-7	7-2	10-3*
Agriculture	7-4	8-4	—	—
American Studies	10-6	11-7	—	7-2
Architecture	11-6	11-8	6-2	4-2*
Biochemistry	10-3	12-6*	4-2	6-2*
Biological Science	8-5	9-6	4-2	5-2*
Biology	10-6	11-8	6-2	8-2*
Building	8-3	9-7*	6-2	9-2*
Business Studies	10-6	12-7*	3-2	4-2*
Chemistry	10-6	12-8*	6-2	7-2*
Computer courses	10-5	12-6*	—	—
Dentistry	12-6	12-8	5-2	6-2*
Economics	11-6	13-8	6-2	7-2*
Engineering Science	10-4	12-6*	4-2	6-2*
Engineering (Civil)	10-3	13-6*	4-2	5-2*
Engineering (Electrical)	11-6	11-7	4-2	6-2*
English	11-6	11-7	6-2	6-2
French	11-5	11-8	6-2	6-2
Geography	11-5	11-7	5-2	6-2*
German	12-6	12-7	6-2	6-2
History	12-5	12-7	5-2	10-6*
Law	12-3	12-6*	2	5-2*
Materials Science	9-3	13-8	2	6-2*
Mathematics	12-5	14-6*	—	2
Medicine	12-9	14-9*	—	—
Pharmacy	10-6	11-7	6-2	9-2
Physics	12-4	11-6*	2	2
Psychology	12-6	12-7	6-2	8-2*
Sociology	10-8	11-7	4-2	8-2*
Veterinary Science	14-2	14-12	—	—
Zoology	10-5	11-6	—	—

He has also listed the most popular institutions, by matching the offers made against the numbers of applicants for the places available. He has taken the highest offer made to candidates applying for each subject or the standard offer. (The UCCA score is 5 points for an A, 4 for a B etc.)

According to Mr Heap the three most popular universities, in alphabetical order, are Bristol, Durham and Imperial College, London. They make an average offer of 10 points. (Oxbridge and some specialized London colleges are excluded from the table.)

Next, with an average demand of 9 points are, alphabetically, Bath, Birmingham, Cambridge (Homerton), Edinburgh, Exeter, Kent, the London School of Economics, the School of Oriental and African Studies (London), Manchester, St. Andrews, Sussex, Warwick, York.

Then, with 8 points come Aberystwyth, Aston, Bangor, Bradford, Cardiff, City, East Anglia, Glasgow, Heriot-Watt, Hull, Keele, Lampeter, Lancaster, Leeds, Leicester, Liverpool, Chelsea (London), Kings's (London), Royal Holloway (London), Queen Mary (London), University College (London), Loughborough, Nottingham, Reading, Sheffield, Southampton, Surrey, Swansea, the University of Manchester Institute of Science and Technology, and the University of Wales Institute of Science and Technology.

He lists the top ten polytechnics, alphabetically, as Birmingham, Brighton, Bristol, Central London, City, Kingston, Newcastle, Portsmouth, Sheffield and Trent.

Degree Course Offers 1981/2. Winning your place at university, polytechnic and other institutions of higher education. Published by Careers Consultants Ltd, 12-14 Hill Rise, Richmond, Surrey TW10 6UA: £4 (plus 90p postage and packing).

New series for business students published today

by Karen Gold

A series of self-study business books aimed at the growing market for continuing education is published today under the title *Breakthrough*.

The series is a joint venture between Pan Books and the National Extension College in Cambridge whose staff have guided and vetted each paperback from writing to publication.

The first batch comprises eight titles ranging from basic business topics such as numeracy and practical business law, to management skills and the use of statistics. All are aimed at two types of readership: students using business education syllabuses, whether by correspondence or at college and, more radically, people in employment wanting to update their business skills.

For this purpose the series is marketed as relevant to current intiatives in distance learning and its popularity with the Government, notably the PICKUP and Open Tech schemes. The NEC is likely to work closely with these.

The publishers hope the texts will be used for a variety of courses, including those run by the Business Education Council, the Royal Society of Arts, first degree courses in Britain and abroad. All the authors work in higher and further education.

All the books are designed for self-study use, with illustrations, self-check questions, questions at the ends of chapters and activities such as reading *The Times* law reports to keep up to date in business law or analysing personal practice in office layout or annual reports.

The series represents five years of planning by Pan and the NEC and is expected to have 25 titles by 1985.

The eight titles published today, most at £2.95, are: *What Do You Mean, Communication?, Using Statistics in Business 1 & 11, Making Numbers Work, The Business of Communicating, Management: a Fresh Approach, Keep Account: A Guide to Profitable Book-keeping* and *Practical Business Law*. For 1983, books on marketing, management accounting and personnel management are planned, with data processing, office practice, industrial relations and business economics for 1984.

Industry's college links to be studied

The first definitive investigation into how effectively Scotland's higher education colleges help industrial development begins this month. Paisley College of Technology has appointed a researcher whose task in the next two years is to investigate and evaluate academic links with Scotland's industries.

Mr John Evans's study is funded by a £32,800 grant from the Scottish Education Department and will be administered jointly by Paisley's department of economics and management and its centre for liaison with industry and commerce.

Mr Evans, an economist, will look initially at the work carried out for industry by Paisley College, Queen Margaret's College in Edinburgh, and the Scottish College of Textiles at Galashiels.

Professor Peter Slonne, head of the department of economics and management said: "We have chosen three centres for investigation . . . Paisley, for its broad involvement with a wide range of manufacturing industries; Queen Margaret's College because it is heavily involved with the service type industries; and the Scottish College of Textiles, which is a smaller institution with clearly defined interests in a particular industry."

Gideons' gift

Gideons International has presented Stirling University with 600 bibles for students in halls of residence. Over the next three years, it will provide 1800, one for each student flat.

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North American news

Neighbours angry at property deals

from E. Patrick McQuaid

CAMBRIDGE, Mass

Strained relations between town and gown over sizeable property holdings by American colleges and universities came into sharp focus recently when Boston University had to sack two real estate executives on charges of conflicting interest.

No mention was made as to whether the dismissals were linked to the university' controversial acquisitions around its Charles River campus, which has stirred considerable resentment among community groups and been an issue of intense debate.

Elsewhere in Boston, residents of Chinatown charge that the expansionist efforts of Tufts University dental school are threatening the continued cultural survival of that quarter. Across the river, both Harvard and the Massachusetts Institute of Technology are having to deal with angry neighbourhood groups who do not agree with either university's plans for various parcels of land throughout Cambridge.

Last year at this time members of the Harvard Tenants Union asked the state's highest court, which oversees members of the bar, to investigate what they charged was "improper behaviour" on the part of an attorney representing Harvard on real estate matters.

Tenants claimed that the attorney had attended an open meeting concerning the university's plans to oust them and rehabilitate an apartment complex, but when an attendance sheet was passed around the attorney disguised his signature.

Harvard officials admitted that they had assigned the attorney to attend the session and while "he was not instructed to stand up and announce he was from Harvard, he certainly was never told to misrepresent himself."

After a year of bitterness that dispute has been settled. Harvard promised to pay the tenants approximately $5,000 each for relocation and to set aside parts of the renovated building for low an moderate income housing. The tenants, in turn, agreed to drop their lawsuit in which they charged that Harvard had purposely let the building deteriorate in order to more easily evict them.

This summer Harvard purchased a 72-room motor lodge making the university the sole owner of all major land parcels in that section of the fashionable Harvard Square. The university may have violated a Cambridge city ordinance issued in 1980 severely restricted institutional growth within the city boundries if Harvard does not continue to operate the hotel as a commercial enterprise.

University officials have hinted that the building would be used to house visiting scholas. Should Harvard opt to run it as a business, however, it will be subject to property and business taxes.

MIT has been at odds with city councillors and neighbourhood committees over a 19-acre parcel of land the institution bought in 1970 and hoped to develop as an industrial area. While the site remains undeveloped and non-productive for MIT, the institution has continued to pay real-estate taxes on it, totalling $800,000 last year alone.

During the 1960s MIT used its funds to develop what is known as Technology Square, now a leading source of jobs and tax revenues for the city. MIT plans to develop this new parcel into a similar complex of industries, businesses, and possibly housing.

But when MIT purchased eight townhouses in the neighbourhood this summer, citizens charged the institute was forcing gentrification upon the traditionally working-class community. Residents picketed the personal homes of MIT's corporate steering body to protest at the move.

High tech policy proposed

The authors of a book-length report on the future of high technology in America are submitting to Congress a billion-dollar proposal they claim will balance "the goals of employment and enlightenment" and integrate humanities with technology education.

The proposed legislation is modelled on the Morrill Act, which in 1862 chartered the founding of colleges specifically for agriculture and the mechanical arts. It led to the establishment of agricultural extension programs, continuing education for farmers, and the unprecedented boom in American agriculture and industry.

The federal government donated 17,430,000 acres of land to help subsidize the new schools. Among the first recipients of support were the Massachusetts Agricultural College, which later became the State University of Massachusetts at Amherst, and the Massachusetts Institute of Technology, which though now a private university still receives in the order of 23,000 a year from the federal land grant payment.

Today the boom is in high tech, but as yet there exists no national policy to address the needs of industry, education, and overall economic growth.

"What is apparent in the United States," notes Dan Dimancescu, a co-author of the study *Global Stakes*, "is that the nation's ability to sustain its output and motivation of highly trained people – engineers, managers, and workers – is more than ever in question. Misguided or misunderstood priorities have shifted the nation's attention away from the single most important task: maximizing human potential through education."

No significant long-term relief is foreseen in the national demand for electrical engineers and computer scientists, he said. "Electrical engineering and computer sciences have an estimated half-life of five years, say the authors. "This means that half of a computer scientist's knowledge is obsolete in five years."

The authors include Mr Dimancescu, who directed a four-year analysis of US, Japanese, and European urban planning and management, James W. Botkin, author of *No Limits to Learning*; a report to the Club of Rome and former director of the Salzburg seminar, and Ray Stata, founder and president of Analog Devices, a Massachusetts-based high tech industry with sales last year of $50m. Mr Stata was instrumental in the founding of the Massachusetts High Technology Council and he sits on the state's board of regents of higher education, the official state ministry.

"The most impressive legacy born of the Morrill Act," they contend, "was the understanding that education, open to all and focused on learning applied to real economic needs, could not be divorced from economic growth and national strategy.

They are calling their new plan a "high technology Morrill Act" and propose a partnership of federal, state, and business interests at the local level. The keystone of this legislative initiative would be a matching grant formula in which the federal government would commit $500m while each of the 50 states would put up $300m and local industry would chip in $200m.

Unlike the original Morrill Act, which sought to establish new educational facilities, the high tech Morrill Act would embark on a crash programme of updating all equipment resources in American engineering schools.

"Introducing more technology into education, changing traditional delivery systems toward lifelong learning, entering into new partnerships with industry and government all raise fundamental questions about broad educational policy. What are the appropriate goals for higher education in the twenty-first-century? asks Mr Dimancescu.

Extra money 'would not lure working-class students'

from Mark Gerson

MONTREAL

Canadian universities continue to attract most of their students from middle and high income families and increased financial assistance will do little to boost university attendance by working-class students.

This is the major conclusion of the Anisef report, a $30,000 study of university accessibility commissioned by Ontario's ministry of colleges and universities.

According to the research team headed by Paul Anisef, a York University sociologist, programmes designed to bring more students whose families are at the lower end of the economic scale into universities must begin early in the educational process.

While not discounting the importance of money in a student's decision to attend university, Anisef notes that "we have to recognize that, in addition to providing financial assistance there should be a corresponding emphasis on overcoming those barriers direct financial assistance cannot resolve"

Anisef discounts Ontario's current "cure-all" approach that stresses higher tuition fees coupled with increased student loans because he says the prospect of a heavy debt can serve as a deterrent to working-class students considering university education. But while lowering the cost of education might bring some benefit Anisef argues that it is the effects of socialization that are the greatest deterrent. Students have generally decided whether or not to attend university before they enter high school, he says.

As a result the report recommends that special programmes for economically disadvantaged children be set up.

These would begin before kindergarten and could continue right through high school. According to Anisef, such "head start" and summer programmes along with improved high school counselling and other incentives, would lessen present social and cultural restraints to equality of educational opportunity.

Anisef also wants the government to create programmes that would encourage families to save for their children future educational needs. He recommends tax-deductible higher education savings plans (similar to existing retirement savings plans) and the option to deposit family allowance benefits into an interest-bearing scholarship fund for lower income families.

Payments into the fund could supplement rather than replace government allowances, He suggests. Anisef believes the government must commit funds to ensure that accessibility to post-secondary education in Ontario is both researched and continuously monitored. The study uncovered dramatic increases in participation rates among all ethnic minorities except native Indians, and Anisef suggests that research should also be conducted to examine "the circumstances, conditions and factors" that led to such increases. In particular, he notes, "cultural values regarding the desirability of university education" should be closely studied.

Education minister Bette Stephenson has not yet stated whether or not the province will adopt any of Anisef's recommendations.

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Overseas news

Repression fears rise in Honduras

by David Jobbins

Fears of academic repression in Honduras have heightened since the bodies of a university union leader and two prominent students were discovered.

All three were associated with the autonomous state university in the capital city of Tegucigalpa, and, according to the Honduran daily newspaper *Tribuna*, had been detained a week earlier by the secret police.

The report, which was monitored in neighbouring Nicaragua, said the bodies of Felix Martinez, leader of the non-teaching staff union at the university, and students Jose Roberto Fino and Samuel Lopez Escoto, showed signs of torture.

The DIN, the country's secret police, has previously been accused of torturing detainees opposed to the military government.

The autonomous university has acted as one of the main focal points for opposition, and among those who have disappeared after being arrested by the DIN is the general secretary of the University Students Federation of Honduras, Eduardo Laza Becerra.

The former rector of the university, Dr Juan Almandarez, who was briefly detained by the DIN, made autonomy the major issue when he stood for election for a second three year term earlier this summer.

Dr Almandarez: death threats

Banners support his second bid for election

Elections due in May were twice postponed on the orders of the Supreme Court, but on the second occasion early in June, the university council decided to hold them in defiance of the order. This was partly to demonstrate autonomy and partly because it rejected the legal basis of the judgment.

Dr Almandarez gained the minimum needed to secure election, but the result was almost immediately annulled by the courts and new elections ordered.

During a bitter run-up, opponents of the government claimed that US$500,000 was being poured into a campaign to discredit the university as a Marxist power base.

The new election was won by Dr Ramos Soto, a lawyer and one of the top advisors to General Alvarez, the head of the armed forces and effectively in control of the country despite the election of a Liberal Party government earlier this year.

Civil rights observers now fear that the military may infringe autonomy by using the university press to its own ends, weeding out left wing stuff, and possibly axing the extra mural and human studies departments.

Academics who took part in the elections against the orders of the Supreme Court may face criminal proceedings and many others have gone into voluntary exile. Dr Almandarez has been subjected to death threats and the home of a doctor bearing the same name has been bombed.

Students try to break the banks

from Geoff Maslen,

MELBOURNE

Australian university students have threatened to withdraw millions of dollars of their savings from banks in protest at a student loan scheme introduced in the federal budget last month. Students believe the scheme, expected to be administered by the banks and to be in operation next year, will mean a move from financing students by way of grants to one where the user – or the learner – pays.

Under the scheme announced in the budget, students will be able to borrow up to A$1000 a year at subsidized rate of interest of five per cent. The loans can amount to A$8000 over the period of study with a ten year repayment period after completion. Although the budget increased amounts to be paid to students under the tertiary education assistance scheme, the Australian Union of Students believes it will not be long before the Government phases out the scheme. Now, instead of protesting with placards outside Parliament, student organizers in New South Wales have begun to fill the banks in their most vulnerable quarter – student deposits.

As a first step, organizers withdrew a total of A$160,000 from banks at the University of New South Wales, Macquarie University and the Sydney College of Advanced Education.

While other states prepared to do the same, the AUS launched its second attack, a "Break the Banks" campaign – a competition with prizes for the students who opened and closed accounts at the most banks. According to the union, if 100 students opened and closed an account every day, it would cost the banks A$7,000 a week in pointless paperwork.

The student without transport who opened and closed the most bank accounts in a week won a cash payment equivalent to an allowance cheque. To those with transport, the same amount was paid to the person who opened and closed the most number of accounts at different branches throughout the city.

This was followed by a treasure hunt with a prize of A$500 in which clues were written on the back of withdrawal slips at various banks. According to the AUS, banks stand to lose millions of dollars not only through lost accounts of the union and whatever savings students might have. They will also suffer the long term loss of customers who should be earning above average incomes after their courses have finished.

The Government has continued to deny that it is intent on switching student financing to an entirely loan-based scheme. According to the Minister for Education, Senator Peter Baume, the loans scheme is an adjunct and not a replacement for government grants.

At the same time, Senator Baume said the Government believed in the principle that the user who benefitted from higher education should contribute something for receiving it.

He pointed out that expenditure under the tertiary assistance scheme in 1983 would be about A$194m, compared with A$165m this year, an increase of more than 17 per cent. As well, some 89,000 students are expected to receive assistance under the scheme in 1983, an increase of 2,500 over the number for this year.

So far banks have remained fairly quiet about the effect of the students' action but an Australian Bankers Association Research Directorate official did describe the campaign as "not original, not clever". "It's a take from *The Moneychangers* book, where people withdrew funds from a bank in protest against a bank's housing estate development. It didn't work in the book and it won't work here," he said. He added: "This isn't going to hurt the banks one skerrick. They're fighting the wrong people. It's a bit like me belting the mother of the student union president."

Teacher college to close

One of New Zenland's eight teacher colleges, the North Shore Teachers' College in Auckland, will close at the end of this year. About 180 out off the total 455 lecturing posts in pre-service training will be cut in the next two years.

This decision follows a Government review of the colleges which generated speculation about closures or mergers with neighbouring universities for up to three colleges.

More thnn 7,000 students can be comfortably accommodated in the colleges and numbers are now expected to level out about 3,400 – the result of a decision taken last year to halve college intakes.

The Minister of Education, Mr Merv Wellington, said student numbers would need to be spread across the colleges and use found for surplus accommodation.

Christchurch Teachers' College, which trains both primary and secondary teachers, will be the largest single college next year with 770 students. The Auckland primary and secondary colleges which share adjucent campuses will have a combined roll of 1160.

At the other end of the scale will be Dunedin Teachers' College with only 310 and Wellington Teachers' College with 340 students.

Mr Wellington said some of the surplus space would be used by technical institutes and some made available for use by other groups. By retaining the colleges he had safeguarded the facilities for use if the demand for teachers rose during the 1990s.

Some redeployment within the education system is expected to result from a package presented by the teacher associations to the Minister which is still under consideration. Some posts will disappear through early retirement.

Where were Russians, asks British lecturer

by Jon Turney

The unexplained absence of Russian delegates from an international scientific congress was attacked last week by one of the British organisers.

Dr Robin Walsh of Reading University said three Soviet speakers who had had papers accepted failed to arrive at the Seventh International Symposium on Gas Kinetics in Göttingen, West Germany.

One distinguished Russian contributor should have been Professor E. Nikitin of the Moscow Academy of Sciences, who accepted an invitation to address a conference plenary session.

Professor Nikitin is Jewish, and his daughter was recently refused permission to emigrate to Israel. But Dr Walsh declined to speculate whether this was connected with the Soviet delegation's non-appearance.

"The point is that they didn't turn up and they gave us no explanation", he said. "The Russians have been a major contributors to this field, and have come to some of our meetings in the past, but you can never tell if they will arrive on the day."

Dr Walsh, chairman of the Royal Society of Chemistry gas kinetics group added that 250 scientists from all over the world came to the conference, which is held every two years, and that all workers in the field stood to lose from the Russians' absence.

"We would certainly like to hear what they are doing, and I'm sure they could benefit scientifically as well," he said.

The conference was mainly concerned with gas phase reaction kinetics related to air pollution and stratospheric chemistry. None of the Russian invitees do classified work.

A Royal Society of Chemistry official confirmed that uncertainty about Soviet intentions was a general problem with scientific meetings. "It is quite common for them not to come," she said. "We often try to schedule Russian papers at the end of a meeting." This did not solve the problem of unused accommodation, she added. Nor was organizing meetings inside the Soviet Union much help, as many potential delegates then had trouble entering the country.

Universities spell out requirements

Applicants to Sri Lankan universities have been given advance notice of qualifications needed for admission to various faculties, beginning in 1985. Previously students rarely knew what requirements to conform to as university regulations chopped and changed.

The University Grants Commission has now issued a prospectus detailing what subjects they must have at GCE A level for entry to medical, veterinary science, biology, agriculture and physical science courses.

In addition they will be required to have passes in three subjects a mark of not less than 25 per cent in a fourth and a minimum aggregate of marks.

Admissions, however, are still subject to a quota system of 30 per cent of places on merit grounds, 55 per cent on a district (population) basis and 15 per cent for educationally backward areas.

The UGC has also introduced a uniform calender year for the island's universities. Its chairman, Dr S. F. Kalpage, said that this was essential, as during the five years from 1972–77 only four academic years were completed.

Jobsharing scheme means unpaid leave

A jobsharing scheme for university teachers is being introduced in West Berlin. It will make a modest start this winter at the city's Free University where several professors have already volunteered to take unpaid time off.

Unemployment among university teachers has been a problem in Germany for a long time, but rigid civil service regulations and a shortage of money have made it difficult to recruit even part-time staff. The Berlin pilot scheme has been praised by the federal Minister of Education, Herr Björn Engholm, as offering a "real possibility of finding employment for university teachers".

Professor Peter Grottian, who teachers politics at the Free University will take a year's leave of absence to complete a research project. A colleague, Professor Wolfgang Narr, whose salary amounts to about £25,000 a year, will take a year off to write a book. According to optimistic forecasts, between 30 and 40 Berlin professors will eventually take part in the scheme.

Much more will have to be done if the career prospects of would-be university teachers are to be effectively improved. Chairs at German universities will be occupied for decades to come – the average age of university teaches is 46, and for every 100 professors, only two newcomers a year manage to find posts.

The Association of University Teachers is completely opposed to the jobsharing scheme, not least because "teaching students is not a part-time job". The Bavarian state government also rejects the scheme, but for other reasons. "University teachers don't have all that much teaching to do as it is," it said. "They're already only employed part-time – on full pay."

Foreign teachers could be frightened away, warns v-c

The vice chancellor of Baluchistan University has warned that unwarranted allegations against foreign teachers employed in Pakistani universities might frighten them away and create problems for specialized subjects.

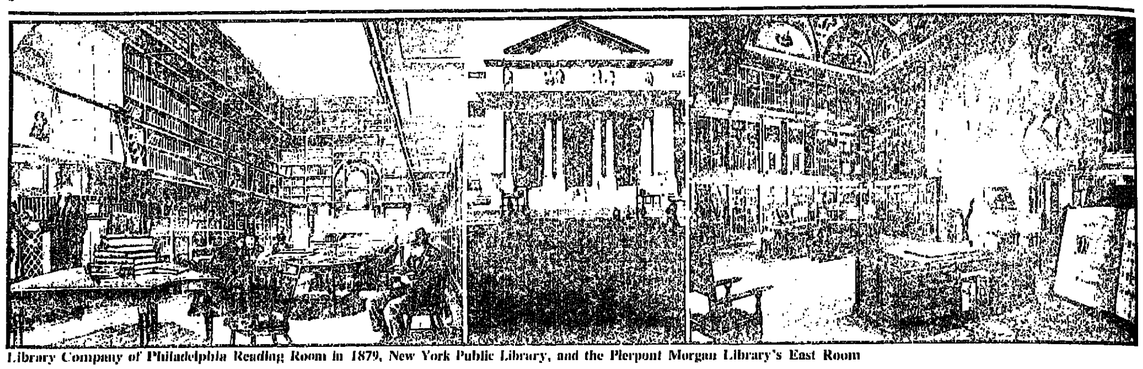
Brigadier Agha Akber Shah, whose own removal is among the demands being voiced by a group of Baluchistan students, was defending two foreign professors, said to be British and American, who were on the staff of the university. Mr Joseph Elphabine, who taught statistics for about two years in Baluchistan University, was allegedly a Jew who indulged in some mysterious activity and then disappeared, possibly to neighbouring Afghanistan.

The vice chancellor is reported to have defended Mr Elphabine saying that he had been appointed on a two year contract in the university. He said he held British nationality, professed to be a Roman Catholic and held a postgraduate qualification from Cambridge University.

However, Mr Elphabine had left the university on completing his two year contract, the vice chancellor said. Mr Elphabine's credentials had also been cleared by the Pakistan foreign office before his appointment.

Brigadier Akber Shah also said an American national was conducting research work for the university in Baluchi langunge. There were up to 20 qualified foreign teachers (apart from a number of Egyptians, employed in the newly established Islamic university) working in different Pakistani universities and Baluchistan University required a few more.

The vice chancellor warned that if unwarranted allegations were made against foreign teachers and ethnic and racial prejudices whipped up against them, it would discourage foreign teachers from coming to Pakistan. This would hinder development of higher education and intellectual progress.



Library Company of Philadelphia Reading Room in 1879, New York Public Library, and the Pierpont Morgan Library's East Room

Collectors' collections

Tom Mullaney reports on America's independent research libraries

Of the 32,000 libraries in America, 15 are extra special. They are independent research libraries, institutions that house some of civilization's Crown Jewels.

But while some of them are going through a boom time, others are fighting the ravages of inflation.

The Newberry Library in Chicago has just built a new, highly secure ten storey bookstack building. The Folger Shakespeare Library in Washington will soon open an $8m wing. The Huntington Library in California has just raised $8m in a fund-raising drive. The Library Company of Philadelphia celebrated its 250th anniversary last year with a major international symposium. The New York Public Library has embarked on a $25m restoration project for its 42nd Street landmark.

Meanwhile inflation is hitting hard at all library endowments, making purchases of books and building maintenance a greater burden. Paper currently has a life of 20 years while books of the late nineteenth century are so highly acidic that they are crumbling into confetti with each use.

The library field has few openings and professionals are wondering whether graduate library schools are preparing students for the challenges of 1990 or are still stuck in the 1950s. And librarians are gritting their teeth over the coming of the computer and the information explosion.

As a collective entity, independent research libraries hold approximately 12 million volumes, have combined endowments of over $250m which supported annual budgets in 1979 of $37m. They provided scholars with the equivalent of 806,000 research days that year.

Institution	Major Collecting Interests	Size of Collection
American Antiquarian Society, Worcester, Mass.	American History to 1876	3 Million Papers
American Philosophical Society, Philadelphia	History of science to 1880; Benjamin Franklin and his circle; Darwin; American Indian Linguistics; 20th cent. Physics, Genetics.	5.2 Million MSS. 160,000 Volumes
John Crerar Library, Chicago	Basic Sciences, Technology and Medicine	1.2 Million Volumes
Folger Shakespeare Library, Washington, D.C.	Shakespeare, English Renaissance and 17th cent. Books, History of Drama	250,000 Volumes 40,000 MSS.
Linda Hall Library, Kansas City, Mo.	Pure and Applied Sciences, excluding medicine	500,000 Volumes 650,000 Microforms
Historical Society of Philadelphia, Philadelphia	Pennsylvania History, Colonial History, Black History	14 Million MSS. 250,000 Volumes
The Huntington Library (an Art Gallery and Botanical Garden), San Marino, CA.	British and American History and Literature from 11th to 20th centuries	5 Million MSS. 600,000 Volumes, etc
The Library Company of Philadelphia	American History to 1880	450,000 Volumes
Massachusetts Historical Society Boston	American History 17th to 20th centuries	Several Million MSS. 300,000 Volumes
The Pierpont Morgan Library New York City	Mediaeval and Renaissance MSS., Early printed books, Old Master Drawings Bindings, Early children's books	38,725 Rare Books and Bindings etc
The Newberry Library Chicago	Humanities in Western Europe, Latin and Central America thru colonial period, United States to present, Gt. Britain to 1918, American Indian, History of printing, cartography	5 Million MSS 1.3 Million Volumes 60,000 Maps
N.Y. Academy of Medicine New York City	Medicine and applied fields, Biographies and Bibliographies	450,000 Volumes, etc
The New York Historical Society	Early New York history, Civil War, 19th century advertising, Architectural Drawings	2 Million MSS. 650,000 Volumes, etc
The New York Public Library	Humanities, Art and Architecture, British and American History and Literature, History of Tobacco, Black Culture, Performing Arts, Photography, Judaica, Slavia and Orientalia	10 Million MSS. 6 Million Volumes 2 Million Photos 150,000 Prints
The Virginia Historical Society Richmond	Virginia History	3.5 Million MSS, etc.

Our survey begins with a definition. An independent research library is distinguished from an academic research library by its autonomy. The library is run by an indpendent board. The independent library also collects much more selectively. The funding for the independents comes mainly from private sources, with some government assistance of late. Libraries suffer from having no alumni, however.

The range among the 15 is fairly wide; it extends from the highly select Morgan Library and the Newberry which calls itself "an uncommon collection of uncommon collections" to the Huntington Library which also houses an art gallery and botanical garden and the New York Public which is second in size only to the Library of Congress.

Benjamin Franklin started it all for independent libraries in 1731. (At the time, the only libraries were ecclesiastical or at the colonies' three colleges, Harvard, Yale and William and Mary).

Within the walls of these libraries are items book collectors, scholars, librarians eye with palpable envy: the Ellesmere manuscript of Chaucer's *Canterbury Tales* (the Huntingdon), Gutenberg bibles (Morgan, Huntingdon New York, Public) the original Folio edition's of Shakespeare's plays (Folger 79 copies), the Stavelot *Triptych*, a twelfth century *True Cross Reliquary* (Morgan), a first copy of the *Book of Common Prayer* (Folger), Catherine of Cleves' *Book of Hours* (Morgan), Ptolemaeus' 1507 map of the New World along with 60,000 other historic maps (Newberry), T. S. Eliot's typescript of *The Wasteland* with corrections by Ezra Pound (The Berg Collection at New York Public).

Such holdings make these libraries the research laboratories of the humanities. These collections also comprise the collective memory of civilization.

Bill Towner, president of the Newberry Library, has commented on the last function. "If we do not preserve the literary and historical record . . . we will lose mankind's memory and the ability to make human and humane judgments. The library is the stored-up memory of mankind. Without that memory, we cease to be human."

Many research librarians and scholars appear unsure whether society recognizes the critical mission they perform and whether it is willing to support their continuation. Towner believes that, while the short-term picture is pessimistic, he is optimistic that current problems can be turned into opportunities for survival and even growth.

His optimism is shared by most heads of independent libraries, particularly the heads of the five institutions who are *primus inter pares*: New York Public, the Newberry, the Folger, the Huntington, and the Morgan. (James Thorpe, director of the Huntington said: "The public is interested in a first-class operation. If they see it, they are taken by it and support it. However, if people sense failure or something second-rate, they will not support that."

Thorpe believes the key to raising money and mounting a first-class operation lies in the quality of a library's trustees whom he says must be "good, active, top people".

While any failure of nerve does not appear to reside at the top echelons, the lower layers of the American library community are worried. *Daedalus*, the unofficial certifier of intellectual crises, is planning a January, 1983 issue on the subject of reading.

Before one can speculate on reading and the future of the book, library officers must face the challenge of keeping their operations operational. In 1965 the $700,000 budget of the Folger Shakespeare Library was met entirely by endowed income. By 1979, the endowment contributed only $1.1m to a $2.6m budget.

At New York Public, the endowment paid 80 per cent of expenses in 1960 while, 20 years later, it accounted for only 28 per cent. When Bill Towner arrived at the Newberry in 1962, gifts amounted to $5,000 annually. They are now over $1m every year. The Morgan has also been highly successful with its innovative (1949) Fellows programme who last year contributed $6.5m in cash and other gifts.

The challenges of shrinking endowments and earned income in the face of rapid inflation have been turned into opportunities for fund-raising and a heightened sense of public relations. Among the responses spawned by the bad economic news were the creation of "friends" groups at most libraries, newsletters, gift shops, annual fund drives, education classes and a consuming pursuit of foundation and government grants.

Wolff at the Library Company distinguishes himself from his colleagues by noting that he is "still a librarian while my good friends have become fund-raisers".

Charles Ryskamp, director of the Morgan, deplores all the fund-raising he must do. He admitted that, had he known the true picture of the Morgan's finances, he would have refused the post. The socializing and politicking are endless.

Economic pressures have done much to erase the highly élite image these 15 institutions hold in the public mind. The image persists, as expressed in the phrase, "those who need to know about us do", but it is dying.

Last year, the Huntington welcomed over 500,000 visitors and 1,500 scholars, 1.5 million people visited the New York Public's research libraries and over 200,000 toured the Morgan's exhibitions, though only a few hundred used its more rarified reading room.

The need to "highlight the collections and bring the people back in", according to Edward Carter, librarian at the American Philosophical Society, has turned into the library world's most urgent priority, along with collection conservation.

While money and public outreach are the big games in town, another is the friendly rivalry between independent and academic research libraries for collections. In the 1950s and 1960s, university libraries were buying up everything in sight and taking in private collections. That state of affairs has changed dramatically.

Should the 15 libraries raise enough operating income and establish a bond with new public constituencies, they must face the issue of to what end will they direct their energies. Most top librarians realize that the former passive stance of information provider must be overhauled into making librarians *active* transmitters of the cultural heritage and its values.

Such a person might be a curator like Bernard McTigue. He oversees the Arents collection at New York Public, a specially endowed collection on the history of tobacco as well as novels in parts, called fascicules. McTigue supports the passive to active shift.

"We need pizaz," said McTigue. He wants to use exhibitions to educate the public and make the treasures on display lure viewers into what lies on the shelves and in rare book vaults. To date, he said, "it's been very low-key to the point of somnolence".

These issues, however grisly and calamitous, are mere skirmishes in what is shaping up as the wider war. It is now possible for some book lovers and information specialists to foresee a future without books – books as we have known them for 500 years; the rich variety of typefaces, bindings, papers, sewn spines and jackets. The war is between paper and non-paper mediums of information storage and access.

Older librarians envision an Orwellian scenario where books are effectively destroyed as communicators of civilization. Those librarians trained in the last 15 years have adapted somewhat to computers and see them as useful tools. One example: RLG will soon have an on-line computer capacity to tell any scholar which of 25 member institutions holds a particular book, manuscript or historical record, thereby facilitating research time and making collection management a more collective responsibility.

The paper vs non-paper war poses a great danger for scholarship. The issue is the ownership of information and the right of popular access. Libraries are on one side while private companies such as Bell Telephone, Xerox, IBM, Exxon and Sony hold another view. What if private concerns began marketing information programs that libraries found too expensive to undertake? Might a user be charged a fee every time he or she wished to see an expensive periodical in the sciences, law or business? That is already happening: only the top law firms can now afford many materials that were formerly housed in law school libraries. The same situation prevails in medicine.

Over the entrance to the Reading Room at NYPL, an inscription appears. It reads: "A good book is the precious lifeblood of a master spirit, embalmed and treasured upon a purpose to a life beyond life." Such words speak volumes. About the challenges facing independent libraries and libraries in general as well as the necessity for meeting them.

A badly mangled degree

Patricia Santinelli analyses the likely effects of proposals to cut teacher training places

The attention given to proposals to close teacher education at 14 institutions has obscured a radical transformation of initial teacher training the Department of Education and Science is planning.

The closures, announced by the Government last month, will, if approved, badly mangle the secondary BEd. This seems to be the intention of reducing BEd places to 1,500, leaving seven subjects as shown by DES unpublished figures for 1985 via this route in far fewer institutions, eleven polytechnics, seven maintained and nine voluntary colleges.

Even the secondary postgraduate route, which is known to be a favourite of the DES, will have been cut. Two institutions in the public sector will undertake the previous "norm" of 11 subjects, with most doing five. This will lead to greater concern about the universities.

The DES attempt at regional redistribution also threatens to leave the north-east forever "jinxed" with hardly any provision. While London and the north west, as is shown by the distribution of centres of excellence and other units of near comparable size do rather well.

London retains Avery Hill, Middlesex, Roehampton and Goldsmith's as big units, although it is to lose the two north London polytechnics, demonstrating a southern orientation away from inner cities by the DES.

In the north-west, Manchester, Liverpool Institute of Higher Education, Edgehill and Crewe and Alsager remain as big units, although the loss of City of Liverpool College will leave Merseyside and surrounding areas badly off.

Whether or not the reallocation and expansion of teacher training places in some institutions, the loss of subjects in others has direct political causes, as has been suggested with regard to the proposed closures, is more difficult to establish.

But perhaps more fundamental to the survival, reallocation and cuts have been the hidden criteria. These are different from those published and are said by the department and Sir Keith Joseph to have been the core base of their decisions.

For example, unadmitted criteria are the reports of HMI and the Council for National Academic Awards visits. These will definitely have played a part in decisions on individual institutional allocations.

Moreover an institution is thought to be doing well if it has cast off the protective cloak of a university and has gone for validation by the CNAA. In the same way a track record of substantial success in council validation, unsurprisingly, ensures a "future". However this does not appear to have helped the North East London Polytechnic, Teesside and North Staffs Polytechnics, all of which had good records.

Another important factor for the DES will have been whether institutions have moved entirely to a four-year BEd, rather than a three and four-year one, especially as the four-year BEd is regarded as important for primary training.

Of the 20 institutions which only run a four-year BEd only, nine have been given an increased allocation, two or three are centres of excellence, but on the other hand Worcester, Ripon & York, and Bulmershe have taken a big cut and North London is threatened with closure.

The department will also have been interested in which institutions abandoned the teacher certificate, since many were known to be using it to boost their recruitment figures.

Alertness to national debates is another factor which the DES looked at. Both the CNAA and HMI are said to be influenced by whether institutions engage in discussions of the various reports relating to teacher education that are brought out. Amongst them are the primary and secondary surveys, the PGCE and the BEd reports.

Whatever criteria, published or hidden, the result of the proposed reorganization, reallocation and cuts means that on present plans, several institutions have lost teacher training places altogether which they are not scheduled to regain in 1985.

In the polytechnics both Birmingham and Trent, one of the centres of excellence, have both lost considerable provision and do not regain it in 1985. Their losses which are the highest for all polytechnics are respectively 36 and 41 places. Liverpool polytechnic loses but this is minor. The following all lose provision in 1983 but regain it in 1985: Bristol, Middlesex, Newcastle, Portsmouth, Sheffield and Manchester.

In the other colleges, Bulmershe, Worcester and Crewe and Alsager which is a centre of excellence lose 75, 65 and 82 places respectively and do not regain this in 1985. Whilst Edgehill, West Midlands, Matlock and Derby as well as Nene Colleges all lose out in 1983 but regain in 1985. The highest losses are at Bulmershe, Crewe and Alsager, Edgehill (43) and Worcester.

In the voluntary colleges, Ripon and York, St Mary's Twickenham, St Mark and St John have all lost provision, 67, 15, 18 and do not regain it in 1985. Chester, Homerton, Goldsmiths, King Alfred's, Liverpool Institute, West London, West Sussex, Westminster, St Martin's have all lost but regain in 1985. The highest losses would be at Chester, Homerton, Rippon, York St John, St Martin's and Westminster.

But probably one of the most outstanding results of the DES plans will be the death of the traditional secondary BEd. Colleges which have relied on it for recruitment have suffered and it would seem that future attempts to fudge the situation by creating a junior secondary have been circumvented.

Only 26 institutions have retained a secondary BEd of which 11 are polytechnics, seven maintained colleges and nine voluntary colleges. The league table has now been recast so that the leaders in the field are Sheffield and Bath (85), Leeds (75), Brighton and Avery Hill 70, then Bedford and South Bank with 65 and 60 respectively. After that provision ranges between 55 to 25 with the voluntary colleges actually having the smallest quotas per institution.

Discounting the proposed closures, three polytechnics Birmingham, Newcastle and Kingston (borderline) seem to have lost their secondary BEd, plus eight other colleges, Bulmershe, Edgehill, Herts, Matlock, North Riding, Nene (both borderline) Rolle and West Midlands.

In the voluntary sector this applied to Westhill, Chester, Christchurch, Goldsmiths, Liverpool IHE, Ripon and York St John, St Martin's and Westminster colleges.

But linked with the cut in secondary BEd are some interesting factors. The three polytechnics have doubled their primary BEd and most polytechnics, apart from South Bank and Sunderland which have only secondary BEd, retain a mixture of work in both routes at secondary level.

In the maintained colleges, those institutions which have lost the secondary BEd have more than trebled their primary BEd in particular Edgehill and Herts. Moreover in the PGCE route most have kept a balance of both secondary and primary. PGCE route most have kept a balance of both secondary and primary and Nene which only have a primary PGCE which they did not have before.

The most outstanding development, one predicted by the deliberations of the Advisory Committee for the Supply and Education of Teachers is the few numbers of subjects that remain at secondary BEd level (see chart).

It now exists only in physical education, business studies, craft design and technology, science (a little) maths, home economics and religious education, plus some specialist courses in music and drama.

One factor which will infuriate the maintained colleges is that they have been excluded from religious education which is left entirely to the voluntary sector both at secondary BEd and PGCE.

Unless the university provision is expanded it will mean that 210 places will be exclusively offered by 11 church colleges, instead of the 46 original providers. It is true however that even the voluntary sector religious education provision has been substantially reduced.

It is unlikely too that this exclusive right to religious education will find favour with the church colleges, indeed it was opposed by their representative in ACSET.

Although the voluntary sector also appears to have done well in maths, this has actually been cut back by 56 per cent and at BEd only eight institutions retain it and with fairly small groups, that is not above 10.

In physical education the division of places has been fairly well spread between the sectors, although the voluntary colleges seem to have had a cut of 75 per cent, leaving four BEd courses. Moreover in business studies, although they never had large provision they have kept only one course. Science is being shared between the maintained and voluntary colleges to the almost exclusion of the polytechnics. But the latter have retained most of the provision in CDT and HE. In fact one sector which has least provision are the maintained colleges.

In the PGCE, the league table of institutions shows that a mixture has been retained across the three sectors although in the higher echelons, polytechnics and voluntary colleges predominate. Taking both secondary and primary provision, the leaders are Goldsmiths, Manchester Polytechnic and Roehampton, Brighton, Birmingham and Leeds, Liverpool IHE, St Martin's, West London Institute and Crewe Alsager (with provision ranging from 290 to 100).

If this is broken down just for secondary provision, the leaders are again, Goldsmiths, Manchester Polytechnic, Brighton, Roehampton, Birmingham and St Martin's (all between 220 and 100).

But the total number of PGCE subjects retained 15 (see chart) hides the fact that there will only be two institutions which offer 11 subjects, Manchester and Goldsmiths, whilst Liverpool IHE, St Martin's and Roehampton will offer between eight and nine. After that it is rare to find above five and below that figure is usual.

In effect apart from the two big ones Manchester and Goldsmiths others like Brighton, Roehampton, Birmingham and St Martin's and the remaining 34 centres which range from Liverpool IHE (90) to Matlock (10) derive their numbers from specialist courses.

For example history, geography, social studies and English are actually retained together at only three institutions, Goldsmiths, Manchester Polytechnic and Liverpool IHE and this has undermined the traditional base of many public sector PGCEs.

One of the biggest surprises of the PGCE provision too has been the proposed closure of Leeds and Leicester as art centres, whilst an allocation has actually been made to a non-centre Bretton Hall.

In primary education, the area which is to expand, particularly from 1985, there will be 50 centres offering primary BEd ranging from Roehampton to Mark and St John (45). In the league table apart from Roehampton are Edgehill, Liverpool IHE, Manchester Polytechnic and Herts, then Trent, King Alfred's, Christ Church, La Sainte Union, Sheffield Nene, Avery Hill, Ripon & York St John (all above 100). On the whole the spread of the institutions given substantial primary numbers is broadly equally divided between the sectors.

In the primary PGCE there will be only 41 centres offering courses with again Roehampton in the lead (130) to Newcastle (15). The usual group size is between 20 to 30 smaller than the average BEd groups which are between 90 and 110. A few are 50 plus, such as Oxford Polytechnic, Bristol, Manchester, Leeds, Bradford and Ilkley, Goldsmiths, West London Institute and La Sainte Union.

The secondary BEd in the public sector has been reduced to seven subjects. The following is a breakdown by subject, with the number of institutions, and names of institutions in order of BEd numbers. Provision for individual institutions is in brackets.

Subject	Number of centres	Total places	Institutions
PE	11	350	Brighton (60), Bedford (45), Avery Hill, Leeds, Liverpool Poly, Sheffield, St Mark and St John, St Paul and St Mary's, West London and West Sussex. Bristol (20), Sunderland, Trinity and All Saints
Business Studies	4	60	Middx, Wolverhampton (both 30), Bristol, Leeds, Sheffield, Sunderland, Trent, Avery Hill and Crewe and Alsager, King Alfred's, St Mark and St John, St Mary's (30), Bath, Crewe and Alsager, Worcester, Sheffield Poly, Homerton, St Mary's Twickenham.
Craft, design and Technology	11	215	Manchester Poly (20), Avery Hill, Bedford, Crewe and Alsager, Worcester, Brighton, Bristol, Sheffield, Homerton, King Alfred's, Roehampton, St Mark and St John's, St Mary's Twickenham, St Paul and St Mary's Trinity and All Saints, West Sussex
Science	7	80	South Bank (60), Bradford & Ilkley, Worcester (30), Manchester Poly (20s), Bath, Bretton Hall, Roehampton, Trinity All Saints, Leeds, Liverpool Poly, Middx, Sheffield and Trent.
Maths	15	185	
Home economics	13	315	
Religious education	7	90	Roehampton (20), Homerton and King Alfred's, St Mary's Twickenham, St Paul's and St Mary's, Trinity and All Saints, West London Institute

* In addition two courses in music remain at Bath and Bretton Hall and one course in drama at Bedford College.

The secondary PGCE has been badly hit in the public sector. Although 15 subjects have been retained, only three institutions now offer 11, two offer eight and the rest mostly five. The following breakdown gives subjects, number of centres, total provision, the names of institutions in order of capacity with individual provision in brackets.

Subject	Number of centres	Total places	Institutions
Arts	7	330	Brighton (90), Goldsmiths, Birmingham (50), Manchester 45, Liverpool (40), Middx (35). Bretton Hall (20).
Drama	7	80	Birmingham and Goldsmiths' (15), Manchester, Bedford, Bretton Hall, Bulmershe, St Martin's (all 10).
Geography	5	55	Goldsmiths' (15), Manchester, Crewe and Alsager, Liverpool IHE, St Martin's (all 10).
English	24	260	Goldsmiths', Trinity and Edgehill, Roehampton (all 15) plus 20 centres of 10 each of which five are poly, six other colleges and 13 voluntary colleges Kingston, Manchester, West Midlands, Goldsmiths', Liverpool IHE, St Martin's West London, West Sussex (all 10)
History	8	80	Edgehill and Goldsmiths (15), Manchester, Sheffield, Avery Hill, Worcester, Liverpool IHE, St Mary's Twham (all 10).
Social Studies	8	80	Birmingham (30), Birmingham, Goldsmiths', St Mary's Twham, Trinity All Saints (all 20), Brighton, Sheffield, Avery Hill, Bulmershe, Herts, West Midlands, Chester, Christchurch, King Alfred's, St Martin's, St Paul and St Mary's, Westminster (all 10).
Languages	17	235	Manchester Poly (25) plus 20 centres with 10, Brighton, Bristol, Sheffield, Trent, Wolverhampton, Avery Hill, Bulmershe, Crewe and Alsager, Herts, West Midlands, Worcester, Christchurch, Homerton, King Alfred's, Liverpool IHE, St Martin's, St Mary's Twham, St Paul's and St Mary's Goldsmiths (30), Manchester Poly (20), Birmingham, Brighton, Kingston, Newcastle, Sheffield, Trent, Wolverhampton, Crewe and Alsager, West Midlands, Worcester, Liverpool IHE, St Martin's, St Mary's Twham (all 10), Christchurch, Homerton, Roehampton, St Martin's, Middx (20), Bretton Hall (25), Birmingham and Roehampton (20), Manchester, Avery Hill, Bath, Rolle (15), Kingston, Homerton, King Alfred's, Liverpool IHE (all 10)
Maths	21	225	
Science	10	240	Leeds (30), Brighton and Liverpool Poly (25) and Bedford and West London IHE (20), Manchester Poly (25), Liverpool Poly, Roehampton (20), Leeds, Newcastle, Bath (15), Worcester (10), Leeds (30), Trent (25), Middx, Newcastle, Sheffield, Wolverhampton, Avery Hill, Crewe and Alsager, Goldsmiths, Ripon & York St John, and Roehampton Bristol (20), Roehampton (15), Trent, Wolverhampton, Crewe and Alsager, Hull (all 10). Liverpool IHE (20), Westminster, Roehampton (15), Christchurch, Homerton, King Alfred's, St Martin's, St Mary's Twham, St Paul and St Mary's, West London IHE, Westminster.
Music	13	210	
PE	5	120	
Home economics	7	115	
Craft design and technology	11	215	
Business studies	5	75	
Religious education	10	120	

Laboratory for birdbrains

David Jobbins reports on the Edward Grey Institute of Field Ornithology at Oxford

To the birds, the 800 acres of woodland a few miles from Oxford are nothing out of the ordinary. They are typical oak woods of southern England, if a little more secluded than most.

But to ornithologists and in particular to Dr Christopher Perrins, director of the Edward Grey Institute of Field Ornithology at Oxford, Wytham Wood is a living laboratory where over 35 years the intimate secrets of one of Britain's most familiar birds have been laid bare.

A massive data bank covering every aspect of the great tit has been methodically assembled to the extent that Dr Perrins finds that the greatest difficulty is drawing the various strands together.

Great tits take readily to nest boxes and the earliest studies in the UK were set up to establish whether increasing the number of boxes would lead to a population explosion which in turn would act as a control on caterpillars regarded by foresters as a serious pest species.

Although the evidence was insufficient to substantiate this early hypothesis of biological control, the value of great tits as a subject for further study was immediately apparent.

Dr David Lack, who had been striving to set up a project based on robins, birds whose nests are notoriously difficult to find, was influenced by great tit studies already under way in the Netherlands, and the Oxford long term study was born.

Since 1947, the main strand of research has been aimed at reaching an understanding of the reasons for population fluctuations. This involves accurate census work, where the tendency of the birds to favour nest boxes to natural sites is of fundamental assistance. The correlation between date of egg-laying, clutch size, nest mortality and food supplies.

"In recent years we have learned quite a lot about the breeding success of individual birds through their lifetimes," Dr Perrins says.

Survival rates are established by annual trapping of the birds, which are identified by ring tags, and the pregious year's success rate measured by locating birds breeding for the first time.

The team now has an accurate picture of which birds are likely to survive, and when the peak of mortality occurs.

The feeding pattern of the tits is also now sufficiently studied for it to be clear that far from feeding randomly they practice very complex hunting techniques, in some way evaluating their success to make the best use of the supplies available.

The woods are also used by other Oxford biologists and ecologists, and the results of their work can often be of value to the tit study. One example is the study by entomologists of the caterpillar population – a staple food supply for the young great tits.

Analysis of the great tits' song has shown that what to human ears is a simple repetition is a complex assembly of several distinct notes. About 45 discrete songs have so far been identified, and most males have a repertoire of half a dozen from the total. There is evidence that the greater the repertoire, the larger the territory.

Dr John Krebs, lecturer at the institute, who has made a special study of the song characteristics, says there is evidence to challenge the assumption that males learn their song repertoire from their parents. Instead it seems that they pick up songs from their immediate neighbours when they first set up territory.

Another area of investigation now under way is the effect on tit populations of predation by their major enemies – sparrowhawks who catch birds on the wing and weasels who raid nests. Weasels seem to have taken to raiding tit nests after about 1956 and may have turned to nest-rabbit population.

Observation of sparrowhawk nests at close hand has demonstrated that up to 11 tits may be taken in a single day. Dr Perrins and his team have been involved in bizarre tugs-of-war over the corpses of great tits, the sparrowhawk unwilling to release its prey to the investigators even for the identifying ring to be recovered.

Dr Perrins rescues a swan as part of his mortality study

"Given the individual characteristics of different species, there are general lessons which can be learned. An understanding of general factors affecting breeding, clutch size and population does have quite considerable applicability to other species" said Dr Perrins.

Dr Perrins, who took over as director of the institute on Dr Lack's death in 1973, is the author of the standard work on British tits in the authoritative Collins *New Naturalist* series, the first since a small publication in 1846.

Despite his long association with the great tit study, Dr Perrins' interests extend elsewhere. In particular much of his time is currently bound up in a study of the mortality of mute swans on the Thames – something which caught the newspaper headlines last month when first – and inaccurately – an outbreak of botulism was blamed for a worrying number of deaths.

Suspicion has largely fallen on lead poisoning caused by the swans ingesting anglers' weights.

Despite attempts by the angling lobby to shift the blame to other factors, Dr Perrins is convinced that a better monitoring system is needed to establish the reasons for the decline – 25 dead birds are reported to have been recovered from the river at Abingdon in one incident.

As well as often being easy to study, birds are a valuable indicator of the health of ecosystems. The swans' population is suffering because of lead in the river water, but sea birds can be an early warning alarm of environmental damage to the oceans.

The institute is studying the puffins of Skomer Island off the Welsh coast to see if they are suffering the decline of colonies in more northern waters where overfishing means unwinnable competition for their food supplies.

Seabird populations are highly susceptible to oil pollution, an environmental threat which is growing with the exploitation of offshore reserves. While the major disasters are well catalogued and the distressing and economically-damaging results well known, the long term impact on the environment of oil related development remains difficult to assess.

Pressure points are on shore terminals such as Sullum Voe in the Shetlands, and the institute is collaborating in a population study of one seabird, the black guillemot, with the Sheltand Oil Terminal Environmental Advisory Group.

The black guillemot, the northern hemisphere's equivalent of the penguin, although it has retained the power of flight, is largely non-migratory and tends to stay in coastal waters. It is therefore one of the birds and animals most likely to suffer from the impact of man's new technologies and there is evidence already of a decline in the population attributable to a spillage in the early days of the terminal's development.

The institute's research is not confined to the UK. One research student has recently returned from the Antarctic where he was working on the biology of penguins and Dr Krebs is studying the foraging habits of vividly-coloured bee-eaters in the Camargue region of France.

The institute grew directly out of the honourable traditions of amateur ornithology. It has its origins in the Oxford Bird Census, established in 1927 by the Oxford Ornithological Society. It was 20 years before the university establishment could be persuaded that a professional research institute should be established, and it is now to be found in the modern zoology department in South Park Road.

It is a small unit within the department, with just two academics and four support staff. It accommodates 12 to 15 research workers, most on SERC and NERC grants, and a small number of post-doctoral researchers and senior visiting academics.

Demand for places is high and the institute can afford to be choosy, its research students usually having good first class degrees.

The years have seen a subtle change, with the proportion of keen birdwatchers anxious to work with their favourite subjects replaced by a growing number of scientists who regard birds as a convenient life form with which to work.

Dr Perrins says: "There is a tendency for the proportion of twitchers to diminish partly because of the pressure on places. People who tend to spend their undergraduate years watching birds tend not to come up with firsts.

"With increasing knowledge, the next generation has to go deeper, often involving more complicated apparatus and techniques. These sorts of thing are not going to be available to the amateur.

"In the 1930s, with the exception of one or two museum posts, there was probably not a single professional post in ornithology. Therefore the leading ornithologists were almost all amateurs.

"It would be a sad development if the growing professionalism gets to the point where there is no communication between the two."

The work of art and the art of forgery

Art is not always all it seems to be, says Ian Haywood

A fake Lowry drawing speedily withdrawn from a Christie's sale in 1980

A forgery is a subversive artefact. The aesthetic and cultural codes by which a work of art achieves its status in society are deceived and undermined. Culture is subjected to internally disruptive forces and the flaws exposed, proportional to the skill of the forger, may be by no means easy to heal.

Such lethal energies are only unleashed when a work of art is brought into question and an investigation of its genuineness begins. The transitional phase when a "work of art" is transformed into a "forgery" is commonly overlooked because it is here, where culture is acting judicially, that established laws and ethics are most threatened. A forgery, by definition, is illegal and already condemned. Its identity rests on the fact that it cannot be the work of art it (dishonestly) aspires to be. A forgery, so called, is a divine travesty, a bastard form, an outcast from the realms of original and meaningful art. From this exterior position how can forgery be the disturbing force I have claimed it is?

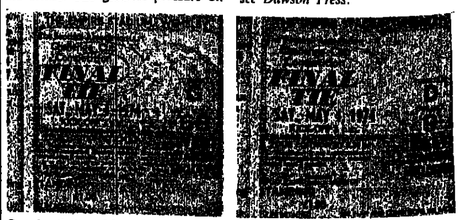
The cultural taboo that has lingered over the concept stems from the widely held equation of forgery with counterfeiting of money and official documents – in other words with political and economic subversion. Carried over into art, the crime is theft of another's property or authority "to the prejudice of another man's right" as the Oxford English Dictionary puts it. The forger's motives must be mercenary and thus detestable; but the motives are largely irrelevant. Moreover, the comparison with fake coinage does not hold. Very few forged works of art are copies, however debased. The commonest kind of forgery (and most popular notion) is to apply another artist's name to your own creation, the parallel being the fake signature on the forged document. A "new" work by a famous artist is discovered. What is stolen here is not the artist's product but his *identity*. His creative ability has been requisitioned by another. A remarkable notion presents itself of an art producing faculty (imagination, inspiration) liberated from its creator and becoming available to anyone who has the skill to harness it. Society, certainly since medieval times, has demanded that a work of art have an authority, a uniqueness, a something which separates it from a consumer item. Forgery threatens this status because it undermines that quiddity of uniqueness and irreproducibility. The work of art may be copied by mechanical, legitimate means, but there is always an original. Forgery undermines even this security, showing that the uniqueness may in fact be extractable, able to be employed by another.

One can see here why critics are so priggish and hostile to forgeries. A great deal of critical effort is concerned with determining the "essence" of a work or of an artist's style. If a forgery has had any success, not only has that critical knowledge been inadequate, the implication is that the forger understood the "essence" of the artist better than the critics. The greatest pressure on the system, then, is in that intermediary phase of litigation and controversy when the work of art is being transformed into a forgery. The attempt at unmasking the spurious object becomes a mutual exposure, because the laws by which culture is judging must be laid bare also. Otherwise the proof that the forgery cheated the rules, acted outside of these laws, cannot be given. Such publicity, of course, leaves the system vulnerable. Art is just as much on trial as the supposed fake.

The eighteenth century literary forgeries of James Macpherson and Thomas Chatterton took forgery one stage further by "discovering" works of *imaginary* ancient authors. Their subversion was more radical because they showed that the authority of a work of art did not have to be stolen to be used by another. It could be wholly fabricated. All conventional ties to cultural norms are broken and what floats free is a chameleon-like entity, becoming a work of art or forgery only as your own aesthetic position becomes clear. The scholarly participants in the controversy (respectable participants on either side) were risking their credibility. Unless the forgeries can be proved to be modern and not ancient productions, the opponents argued, the tenets by which literary history is created *will* be destroyed. Thomas Warton, the compiler of the first history of English poetry, saw this looming 'sansculottism very clearly. If Chatterton's fabrications really were not written during the reign of Edward IV, if they were contemporary lyrics, then "the entire system that has hitherto been framed concerning the progression of poetical composition, and every theory that has been established on the gradual improvements of taste, style and language, will be shaken and disarranged". Warton's nervous shock is very obvious.

Unless a forgery comes under suspicion, of course, its power remains dormant, trapped inside the work of art, trapped until it is realized that the forgery is more than a godless relative and is itself a form of art from which we can learn a great deal. Viewed in this way, subversion may become education and revaluation. We live in an age (as Macpherson and Chatterton did) in which the novel parades fiction as fact and fact as fiction. High technology art such as the cinema and studio-recorded music is little more than sophisticated fabrication and illusion. Art and forgery have always been closely and productively allied. We may lay forgery to rest, to our own greater peace.

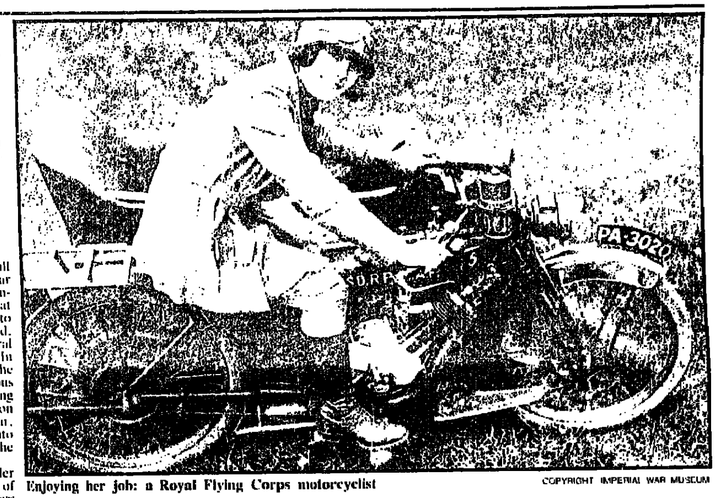
The author is a graduate student at University College London. With John Sutherland he is editing Thackeray's The Four Georges *for Tennessee Dawson Press.*



Genuine (left) and forged 1974 Cup Final tickets. The police said they were "the best we've ever seen".

Women's fightback on the home front

Arthur Marwick argues that the world wars boosted women's assertiveness and self-confidence but had little effect on traditional domestic roles



Enjoying her job: a Royal Flying Corps motorcyclist

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War is endemic to most parts of the world and to all periods of history. Even where there is no war, gross hardship and starvation afflict countless millions. In all catastrophe, war, famine, flood and earthquake, the greatest suffering is inflicted on the childbearers and childrearers of the species, those rendered by biology and custom immobile and vulnerable.

For much of the world it is almost improper to speak of "wartime", as if there were ever an enduring "peacetime". However, by the first decade of this century peace had come to seem the natural order in the Western countries. Wars, if they came, were far off, short and subject to the ministrations of the Red Cross. Some men, and certainly a few women, longed for the glory, excitement and "purification" a war of chivalry and dashing cavalry charges would bring.

In 1907 a group of upper class ladies who could afford to provide their own mounts founded the gloriously named FANY (First Aid Nursing Yeomanry) intended to ride out to the scenes of military action. Certainly the the foundation in Edwardian times of the women's auxiliary organizations, the attitudes of certain important women from the Pankhursts (after August 1914) to Margaret Thatcher, and the performance of today's urban guerrillas, make it difficult to sustain the view of war as an exclusively male inspiration into which females are humiliatingly accommodated. (Though such seemed to be one of the notions behind Ian McEwan's television play *The Imitation Game.*)

Nevertheless, the efflorescence of feminist studies has resulted in new questions being asked about women's experience, immediate and long term, in relation to these two obsessional catastrophes of our century, the First World War (contemporary and later television title) and the Second World War (alias *The World at War*).

The classic feminist stance is displayed most seductively in Connie Field's film *Rosie the Riveter* (1981). Here, present day face-to-face interviews with women who, like the eponymous heroine of the wartime song which gives the film its title contributed to the national effort in the America of the Second World War, are intercut with archive film sequences. The women, so they tell us, though conscious of being overworked and underpaid, of having to carry out domestic chores in addition to their full-time employment, enjoyed their wartime occupations, seized the opportunity to speak up for themselves and other unfortunates, and then were deeply disappointed to be forced out of their jobs at the end of the war.

The contrasting wartime newsreels present thunderingly patronizing attitudes towards women, first of all stressing that in joining the war effort, they are serving their menfolk, then insisting that in order that these same menfolk may return to the jobs that they have earned, women must return to their natural function as wives and mothers. In essence *Rosie the Riveter* follows the arguments of Betty Friedan's famous book *The Feminine Mystique*: having been brainwashed into taking on "masculine" roles during war, women were rebrainwashed into assuming "feminine" ones in the postwar years.

In some ways there is a harder edge to Gail Brayborn's pleading of a similar case in her *Women Workers in the First World War*: here male hostility to women's employment during the war is shown as climaxing in an orgy of hatred against women in the immediate postwar years. The message is insistent: whatever opportunities may have opened out to women in wartime were quickly nullified by a male-organized society once the immediate necessity was over.

Some of the statistics support the feminist case. The number of women in employment in Great Britain was not appreciably greater in 1921 than it had been in 1911. For *Rosie the Riveter* and the assertions of *The Feminine Mystique*, the figures are not quite so neat. In America between 1940 and 1945 the number of women workers rose from 12 million to 16.5 million. That is, from 25.5 per cent of the domestic labour force to 36 per cent. Certainly, in the first year of peace over two million women lost their jobs, but in the end something like two-thirds of those who undertook war work remained in employment and the percentage of women in the labour force settled at about 29 per cent. America, of course, boomed in the forties as Britain in the twenties assuredly did not.

Let's take another country and, again, the earlier war: in France there saw a significant and lasting expansion of employment opportunities for women in heavy industry between 1914 and the 1920s. But then France went through something of an industrial revolution in order to meet the demands of the First World War.

Clearly we must sort out our wars, and our countries, and some more besides. Feminist historiography has contributed invaluable insights by making its starting point not a specific time frame in which, as observed by male historians, certain relationships and conventions are historically determined. Instead it has looked at women as they might be if freed from the accretions of history and, women in respect of their own primary concerns, as distinct from those of society as a whole.

But, unadjusted, the feminist vision leads to an incomplete and therefore erroneous history. Judged by the aspirations of feminists, the changes in women's position in society brought about by the circumstances of war may well seem trivial. Yet judged against the attitudes and relationships within the time period in which they occurred they may seem rather more significant.

One inescapable central question then must be: did the world wars improve the position of women in society? This was what Mrs Millicent Garrett Fawcett, the great suffragist leader, had in mind when in 1918 she declared that "the great searchlight of war showed things in their true light". For, she added, "they gave us enfranchisement with open hands". Whether the latter statement is accurate or not (some historians have declared the war irrelevant to the gaining of votes for women and many feminists prefer to stress the achievements of the suffragettes) there can be no doubt that both wars gave women the opportunity to demonstrate capabilities which society had denied to them in times of peace. For the wars were searchlights in another respect: they glaringly revealed continuing prejudices about women's aptitudes and roles.

Old style "drum and trumpet" military history was rightly criticized for glossing over the human suffering involved in every glorious campaign. There is, however, also a danger that studies concentrating on social analysis and the domestic front will miss the essence of war – the horror and cruelty.

Despite some very important exceptions, the suffering of British, American and French women in the two world wars was very largely in respect of their relationship with their menfolk – husbands, sons, sweethearts – who were killed, mutilated or missing. The bubbling New York interviews in *Rosie the Riveter* introduce an effective elegiac note when referring to the men who did not come home to America at the end of the Second World War.

Accidents in war factories in Britain during the First World War killed well over 200 women. No doubt they had no more sought martyrdom than most men who were hurried to their deaths at the front by the social pressure of military conscription. However, there were recorded instances of conspicuous coolness and bravery by women workers when there were fires and explosions in munitions factories.

Nurses and the Women's Army Auxiliary Corps in France, apart from working in the most appalling conditions, ran the risk of attack from long-distance shells, as well as bombing from the air. At Abbeville on May 29 and 30 1918, nine WAAC workers were killed by bombs, and the very next day several nurses were killed at Etaples.

More conspicuous were the exploits of Mrs Elsie Knocker (who after her wartime remarriage became the Baroness de T'Serclaes) and Mairi Chisholm, "the heroine of Pervyse", who established a nursing and transport post just behind the Belgian line. Most famous of all was the Scottish women's hospitals team under Dr Elsie Inglis in Serbia.

The more enveloping horrors of the Second World War confirmed that in conditions of the most appalling adversity women could show endurance and bravery at least equal to that of any man. In the blitz, in the Japanese prison camps, in the Special Operation Executive and in the resistance movements this was manifestly so. We have learned (a little unwisely perhaps) to laugh at "Dad's Army", (the Home Guard). Without any doubt "Mum's Army", (the Women's Volunteer Service was the most important single force in keeping the Home Front going during the most difficult stages of the Second World War. An upper class body, with close contacts in Government circles, it was largely run by middle and lower middle class housewives.

During the devastating blitz of Coventry on November 1st 1940 the WVS headquarters there was practically destroyed. In leaving their bomb-damaged building, the WVS women on duty had to creep on all fours, soon taking cover amid the tombstones of a local cemetery. Only the tombstones saved their lives when a huge bomb fell a few yards away. But as soon as that wave of bombs had ceased normal duties resumed. At 5am auxiliary fire servicemen came in for tea and sandwiches. One of them, mouth full, uttered the famous but not unjustified line: "I guess the WVS have won the battle of Coventry."

Involved willynilly in war women showed the same range of reactions as are to be found among men: bravery, fear, devotion to duty, boredom, detachement. A WVS worker's diary entry for May 1941 records boldly: "Fear. Paralysing physical fear. It grips you and you feel contaminated, unclean." A middle class Land Army girl in the Second World War recorded of her working class colleagues: "The majority of the girls took scarcely any interest in the progress of the fighting. They knew much less than the average civilian."

Certainly, if we expect to find women taking up a special position on the great issues of war and peace, the rights and wrongs of warfare, of pacifism, of war resistance, we shall be disappointed. But we should note that, just as there were courageous and dedicated male pacifists, particularly in the First World War, so too were there some distinguished female ones. The No-Conscription Fellowship in Britain would have collapsed after all its leading male members were imprisoned had it not been for the small band of women, led in particular by Catherine Marshall, who kept it going throughout the war. French socialist women were instrumental in establishing the International Conference of Socialist Women at Bern in the last days of March 1915, which issued an appeal to all women munitions workers to down tools on behalf of the cause of peace.

However, the point has to be made that such appeals were simply ignored. Such activists as Louise Saumoneau played exactly the role familiar among male intellectual socialists everywhere: she delivered uncomprehendingly bitter and patronizing attacks on women war workers for their inability to rise above their own daily preoccupations to take up the cause of peace. The many diaries that are available written by women in both world wars make it clear that the keynote is a belief in the justness of their own country's cause and an overwhelming desire for their own country's victory. Vera Brittain became a pacifist because of her shattering experiences in the First World War, but in her war diary she is as firm a supporter of the allied cause as any Briton of her time. She was already reacting against male dominance of the family and of social institutions, and against prevailing assumptions about female abilities and roles, but on other issues she shared the values of the society of her time.

It is now time to return to the question of female roles and how far, if at all, wars changed them. Where presentations such as *Rosie the Riveter* go wrong is in implying that suddenly in wartime women were plunged happily into new roles from which they were just as suddenly extruded when war ended.

In fact, we miss much of significance in the whole vexed question of whether war permanently affected women's position in society if we do not note how slowly and reluctantly women took on new jobs. Although there was military conscription of men in France from the very outbreak of war in August 1914, the recruitment of women into the munitions factories did not really get going until the end of 1915. As Mathilde Dubesset, Francoise Thebaud and Caterine Vincent wrote in an important article on the subject: "They constituted the last resort for employers." Only the concerted efforts of the Government got the women into the factories.

Similarly in Britain the establishment of the Ministry of Munitions in May 1915 and the development of Government-controlled factories provided the first big stimulus to women's industrial employment. More important still was the establishment of universal male conscription in June 1916.

Yet in Britain in 1916 the hard reality was continuing male prejudice against the employment of women. In July 1916 *Women's Industrial News* reacted sharply to the misconceptions of the popular press about the employment of women in agriculture.

Most of the press paragraphs referring to the replacement of men by women upon farms have been calculated to give an erroneous impression to the unknowing public. The demand for female labour in agriculture during

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Women coke workers lift a bag on to a workmate's back

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1915 was not very great and large numbers of girls who offered to take up such work failed to find employment.

Two months later the agricultural organizing officer at Worcester labour exchange was begging the board of agriculture to stop giving exemptions from military service to farm labourers since "the farmers in spite of everything we have tried to say or do will not take a woman if they can get anything in the shape of a man".

Earlier in both countries women had taken on the running of small businesses, even appearing in such uncompromising roles as chimney-sweeps or village blacksmiths. They were quite simply keeping the family business going in the absence at the front of husband or father.

Feminists are no doubt right to stress the sexual division of labour within the family. Yet historically, the family is also a remarkably cohesive unit. The role of women in family businesses was often important in peacetime and it became markedly so in time of war. In the Second World War there was the experience of the First World War to fall back on.

None the less, recruitment of women into new occupations was often still slow and encountered much resistance. A Land Army girl spoke of the farmer who "has had men working for him all his life, and now circumstances oblige him to employ female labour . . . Some farmers resent this so much that they seem to take a delight in making a girl feel out of place, useless and unwanted". Some of the appeals to women were traditional, to say the least. One women's Land Army poster made a special appeal to those "who like doing housework". Many of the jobs women took on were simply the old jobs in a different environment. Work in one of the auxiliary services might, for instance, simply mean exchanging a home kitchen for an army kitchen.

Yet in the end the range of genuinely new jobs taken on by women in both world wars is distinctly impressive, but the point is that this came about slowly, and against great resistance. A further point is that since change came about despite strong opposition it was all the more profound.

Some women joined the Red Cross

The single most significant effect of war experience was in women's perception of themselves. What is immediately impressive about *Rosie the Riveter* is the manner in which the women interviewed convey the sense of excitement and purpose they felt while engaged in war work. Both wars were horrible, yet the overwhelming weight of evidence does suggest that women found a new sense of release, a new self-confidence, in fulfilling new roles in wartime.

On the whole feminist writing has concurred with this finding, though the point has been ignored by many political historians. A middle class woman of strongly conservative views who performed a number of skilled and supervisory factory jobs during the First World War wrote up an account of her trials and tribulations while they were still fresh in 1919.

Modern Israeli women undergo combat training

Two gains there were. The first a personal one, for in very few places could I have learned so much in so short a time; nor without the treatment I received could I have become so independent and so self-reliant in my work.

A working class woman later summarized matters more breathlessly.

I was in domestic service and hated every minute of it when the war broke out, earning £2 a month working from 6am to 9pm. So when the need for women war workers came my chance came to 'out'.

The chief factory inspector in his report for 1916 referred to "the new self-confidence engendered in women". The *New Statesman* in June 1917 said of women factory workers:

They appear more alert, more critical of the conditions under which they work, more ready to make a stand against injustice than their pre-war selves or their prototypes. They have a keener appetite for experience and pleasure and a tendency quite new to their class to protest against wrongs even before they have become 'intolerable'.

The heightened consciousness of women during the First World War showed itself most impressively in the strikes organized by French munitionettes, mainly against bad working conditions, and in the Glasgow rent strikes in which women were prominent.

Doris White's recollections of life as a fitter in an aircraft factory in Wolverton certainly conveys a sense of purpose and heightened experience. Yet perhaps the most penetrating account to emerge from the First World War is the one recently published as *Nella Last's War: A Mother's Diary 1939–45*. Nella Last gained her opportunity through the appeal of the mass-observation organization for ordinary people to keep a day-by-day record of their war experiences.

In this diary we have the classic instance of a woman during war coming to realize explicitly what perhaps she had sensed implicitly in time of peace. That is, she is by far the toughest partner in her marriage, her powers of organization and resilience are far greater than her husband's and above all women's work, vital at all times and now crucial in time of crisis, has for too long passed without proper recognition.

The detail of menus planned, scraps saved, clothes cut up and restyled, while toys are made and meals cooked for the WVS, makes fascinating reading, as clear an account of adversity as one could find. All through Nella Last's diary runs a deep concern for her two sons, and in the case of *Mrs Milburn's Diaries* (also published recently) it could almost be said that the fundamental theme is concern for her prisoner-of-war son.

One of the tragic ironies, rooted in the tragedy of war itself, is that at one and the same time emphasis is placed on women's potential role as worker directly engaged in the war effort, and women's role as mother to the country's soldiers, present or future. The battle (male) between those who held that employment of women outside the home would endanger the survival of the species, and those who argued (provided reasonable precautions were taken) there was absolutely nothing against even pregnant women undertaking arduous munitions work, was most vigorously waged in France in the First World War.

One famous doctor declared that industrial work for women encouraged self-sterilization or abortion since the women would not wish to lose their earning power. Another doctor pointed out for the Ministry of Armaments that industrial work had long been commonplace for working class women. He argued it was the prohibition of munitions work for pregnant women which had pushed them towards abortion, since it was interruption of earnings which could not be tolerated.

The depressing insight into contemporary conditions and attitudes, and the casual contempt for women workers this debate gives, must not obscure the fact that the First World War did bring positive improvements in maternity provision. French improvements were piecemeal and erratic: one firm offered among other practical benefits a bonus of 100 francs for the birth of a daughter but a bonus of 200 francs for the birth of a son. In Britain, one of the most important, though most neglected, pieces of collectivist legislation at the end of the war was the Maternity and Child Welfare Act of 1918.

However, the fundamental issue highlighted by war and at the heart of feminist discussion ever since, was that noted by *La Francaise* in May 1917: "How can one reconcile the occupational obligations of the woman worker with her legitimate aspirations as a wife and her demanding duties as a mother?"

It is not difficult to provide an array of evidence from both wars and most countries to suggest that however grudgingly, many men came to recognize the true qualities of women and to argue that relations between the sexes must be more equal. It is also not difficult to find an array of evidence demonstrating that men continued to show a fundamental hostility to women's aspirations and that, particularly in the early twenties, they were vehement that women should keep to their traditional place in the home.

The greatest single danger to rational historical discourse is the very human tendency to adopt a point of view and hold to it as football fans support their club. Those wishing to show that war or no war men's fundamentally hostile attitude towards women has not changed, have done so with as much facility as those who have wished to argue that wars have indeed changed men's fundamental attitude towards women.

The reality is far more complex. One reads with sadness of the bistros near the French First World War munitions factories where tables were reserved exclusively for male workers and of the hostility often shown to British munitionettes, particularly when they went around in large groups.

No amount of patriotic unity nor, of course, of sentimental moralizing, would abolish what inadequately we call the sex war. In Britain, women wrote to the recruiting offices about their husbands whom they felt ought to be called up. Nella Last's comments on her husband got stronger and stronger.

August 1941: "He never realizes – and never could – that the years when I had to sit quiet and always do everything he liked and *never* the things he did not, were slavery years of mind and body."

December 1943: "I thought, over 32 years of *slavery*, patience beyond belief, your house kept a home, whatever happens, your meals ready always, perfectly cooked and served – yet I am treated with less consideration than the average man would dare to treat a servant."

I suppose the extreme feminist argument would be that any sign of women's hostility to men is justified, while men's towards women is not. My argument is that signs of the endemic sex war (whether justified or not) need not be taken as contradicting a broader historical change in relations between the sexes.

The appearance of numbers of women in new roles during the war has provoked a vast amount of gossip and sexual innuendo. In considering the question of war's effects on women's sexual liberation two tentative conclusions of recent research are worth bearing in mind. The first is that in the Victorian period rather more women enjoyed orgasm than our stereotypes of Victorian decorum have allowed. The second is that rather fewer women today enjoy orgasm than our stereotypes of the permissive society would insist.

We should note the total innocence of Vera Brittain's war diary (her regret at not having, at least, kissed Roland goodbye) and of the Second World War land girl's account rather too enticingly entitled *If Their Mothers Only Knew*. We should also note the words of the official commission of enquiry into the behaviour of WAACS during the First World War:

We can find no justification of any kind for the vague accusations of immoral conduct on a large scale which had been circulated about the WAAC . . . It is generally admitted that a state of war tends in itself to create a somewhat abnormal and excited mentality; and that the general atmosphere produced is one peculiarly favourable to the growth of fictitious tales.

None the less both world wars, in that they created new opportunities and involved a breaking of older conventions, undoubtedly marked stages in developments which only really reached crucial dimensions in the changed world of the 1960s.

So we come back to the question of long term change. The feminist argument would be that whatever apparent gains women made during war these were speedily removed once war ended. This was mainly because of men's hostility to any long term alteration in sexual roles and partly also because of women's natural tendency to self-sacrifice. Neither war furthermore, saw any fundamental change in traditional assumptions about women's primary role as wife and mother.

For my part I would prefer to stress the new assertiveness and self-confidence engendered by war's experience. I put all the more weight on this because, I confess, I remain unsure about the possibility of a complete abolition of the traditional division of roles. After both wars women went back to being wives and mothers as after the First World War they went back to being shop girls and servants. But as shop girls and servants they were far more assertive and far less willing to tolerate anything like the appalling conditions of prewar years and as wives they entered a subtly altered family environment.

There is a fascinating comment in Robert Roberts's famous autobiography *The Classic Slum*:

By the end of the war working class women, as we have seen, had gained far more than a limited right to vote. For years now, in their menfolk's absence, many had reared a family, and found in the responsibility a new freedom. Women were more alert, more worldly-wise. Yet the liberty won, some felt they would have to fight hard to retain once the warriors returned. But with surprise they discovered that husbands, home again, were far less the lords and masters of old, but more comrades to be lived with on something like level terms.

After the Second World War, there was a marked shift in employers' attitudes away from their prejudice against the employment of married women. But in any case, many women were glad to be shot of their wartime jobs, however exhilarating they were. Women themselves had seen these jobs as temporary, merely a holding operation while their men were away. Doris White wrote of 1945:

No one asked us to leave work, and we dared not ask to leave, so in awe were we of the Works. But, as the men filtered home, there were weddings and homes to be set up. There were weddings, such as my own, where the man had to return afterwards, back to base to finish his service time. We had managed to find a house to rent, although in a rundown condition, and with my man away, it was left to me to get it in shape. Although I had not been given my cards, I asked for a week off – but I never did go back. I'd had enough.

Some feminist accounts, indeed, seem rather contemptuous in their representation of women as mere pawns in a male-dominated society. Most women in most wars, it is true, do what they are told, but then so do most men. Millicent Garrett Fawcett

Others took over "male" jobs

is too much neglected. She saw clearly that by patient constructive work during the First World War, women could turn the situation to their advantage. It has become fashionable to say that the winning of votes for women had nothing to do with the war, and that the war brought no real changes of substance. But she in fact worked successfully to ensure that the unique opportunities offered by war were seized, so that there were permanent as well as temporary gains.

If we set down women at one end of the field and men at the other and then blindly cheer on our own lot, we may feel uplifted but it won't be history. The best basic unit to take is that of the family and the best assumption is that certain social values at any particular point in time are shared by men and women alike. However pallid the sentiment may sound, the fact is that women in wartime serve the family, or believe that they are serving it. Often they have been exploited but often too they have made real advances which, achieved against the odds, have never subsequently totally been lost.

The author is dean and director of studies in arts at the Open University.

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ISBN 0 231 04196 9

In 1978 the Modern Greek Studies Association celebrated its tenth birthday by holding a symposium on the 1940s in Greece at American University in Washington, DC. Its location was not inappropriate: there are far more Greek-American academics interested in Greece in the 1940s than there are academics in Greece, which is under-supplied with universities by modern standards. Of the 20 contributors to John Iatrides's volume, nine hold American PhDs, against two from London and three from Paris. Only seven have names which betray a non-Greek origin. Of the two authors of the other two books Dr Loulis teaches in Greece; but his acknowledgments are all to British academics; Professor Wittner, who also contributes to the Iatrides volume, teaches at SUNY, at Albany, New York. This distribution reflects two facts; the main caches of documentary evidence outside Greece itself are to be found in Paris, London and the United States in the Public Records Office and in the US National Archives. France, Britain and America have been the main centres of settlement west of the Iron Curtain of Greece's innumerable political exiles.

This might suggest that the present flowering of works on the history of Greece in the 1940s is a purely academic response to the Greek political diaspora. This would be wrong. The events in Greece between 1940 and 1952 played an important part in the series of events which preceded the breakdown of the wartime coalition against Germany and to that polarization of international politics which is loosely and misleadingly referred to as the "Cold War". As such the developments in Greece between 1940 and 1947 assume a historical importance which goes well beyond the scope of internal developments in Greece. In the years 1943–1949 there were (according to the most generous system of classification employed by Professor Iatrides) no less than four outbreaks of armed civil war, four "rounds", in the course of which Britain, the United States and (though to what degree is still a matter of acute controversy) the Soviet Union were directly and politically involved.

When British troops entered Greece, rather against the wishes of the Greek government, in 1941, they were intruding into the internal politics of a country which had been in a state of civil strife since the end of the nineteenth century over the direction of its foreign policy as much as over the form of its constitution. Greece indeed seems doomed to echo the larger struggles of European politics without ever being able to resolve them. In the 1914–18 war the issue lay between a German-oriented absolute monarchy which looked to the Kaiser as its model and was supported by an officer caste which modelled itself on the armies of imperial Europe, and a western-oriented liberal parliamentarian expansionist bourgeoisie which leaned towards republicanism. The Allied occupation of Salonica during the 1914–18 war had been followed by Venizelos's parliamentary republicanism; this in turn encountered shipwreck in the Turkish defeat of Venizelos's efforts to establish the Megala Idea, the Greek empire in Asian Ionia. In 1935 the monarchy was returned to Greece by a military dictatorship under General Metaxas. Italian imperial ambitions however left no room for an accommodation between Metaxas's old-fashioned military authoritarianism and Fascism. Greece recovered national unity briefly in the successful defeat of the Italian invasion in the winter of 1940. British troops therefore came to the aid of a monarchy and a government which, despite Metaxas's death in 1941 was still at odds with the bourgeois parliamentary parties and the urban interests they represented.

When SOE, the British clandestine organization, got into Greece, for once *before* the German occupation, to lay the base of a stay-behind intelligence and guerilla organization, their main contacts were Venizelist ex-officers purged by Metaxas in 1936. Once the Greek invasion had thrown both the Greek government and army and the British troops out of Greece and Crete, rival British agencies – SOE on the one hand and the Foreign Office with its Political Warfare Executive and the latter's established Secret Service on the other – found themselves backing the rival protagonists of the interwar years at a time when a new and increasingly powerful element entered into Greek civil strife, the Greek Communist party, the KKE.

Unfortunately for Greece, he German attack on the Soviet Union came so soon after the German conquest of Greece that there was no time for anti-communist nationalist resistance organizations to establish themselves as the spearbearers of Greek patriotism against a collaborationist communist party. The EAM, founded as a Popular Front-style all-party anti-Fascist organization, managed to step in and fill the organizational gap in Greek politics which had existed since the establishment of the Metaxas government and the return of the monarchy had destroyed the territorial and client-patron based organizations which were the basis of the strength of the bourgeois political parties and the link between their leadership and the ordinary voters in the towns and the villages.

As a result, although the winter of 1941 saw more than a score of different guerilla or resistance organizations springing up in the mountains and in the cities, the EAM, acting in the name of Greek patriotism, was by far the largest and best organized. It was also the only one effectively organized on a state-wide basis, the other being tied to particular regions such as Macedonia, Thessalonica, the Peloponnese. In November 1942 British SOE officers persuaded the various groups to cooperate in destroying the Gorgapotamos viaduct, a crucial link in German rail communications with Athens. From then on however the military wing of EAM, known as ELAS, began a steady campaign against the non-communist groups. These ranged in sympathy from left-wing republican groups regarded by the British Foreign Office with the darkest of suspicions, to the ultra-royalist and militarist authoritarian "Group X" (of which "General" Grivas, the future hero of EOKA, was the leading light). Beyond Group X were the security batallions of the Greek Quisling government.

By early 1943 what the communist/anti-communist split had flared up again into the "first round" of the postwar civil war, the anti-communist groups were driven steadily to seek first British and then German collaboration to preserve themselves. At the same time, the EAM, working on royalist-Venizelist antagonisms within the Greek army in exile in Egypt, fomented a series of mutinies. It was this last more than anything else which opened the Foreign Office's eyes to the direction in which the EAM were moving. In May 1944 British aims were defined as being "to retain Greece as a British sphere of influence and to prevent Russian domination of Greece which would gravely prejudice our strategic position in the eastern Mediterranean".

Since the EAM had just set up a Political Committee of National Liberation (which they controlled) the Foreign Office trumped this with a conference in the Lebanon in which the EAM delegation, outnumbered and outmaneuvred, were forced to accept a government of national unity under Papandreou. In September 1944 when the Germans evacuated the Peloponnese, the local ELAS command began massacring the collaborationist security batallions into which some of the survivors of the anti-communist resistance had moved when their own bands had been destroyed. British intervention succeeded in separating the areas in which ELAS and the principal surviving anti-communist resistance group, EDES, operated; so that when the Germans evacuated Athens in October 1944, the Papandreou government returned with a British general and 5,000 British troops. At the same time Churchill was in Moscow negotiating the "percentages" agreement with Stalin, which left Greece firmly in the British sphere.

There followed the inevitable crisis over the demobilization of ELAS and EDES, and their replacement by the forces of the Greek army in exile, purged since the mutinies of May 1944 of its leftist elements. There was already evidence of a right-wing backlash, a "white terror", in the Peloponnese. Papandreou's loss of nerve in the face of EAM protests and his attempt to set up a national security force under a tripartite ELAS-Venizelist-royalist command, in which ELAS veterans were, under KKE orders, to "organize themselves securely" *en bloc* went too far even for him to sustain. The EAM leaders resigned from his government, a KKE-organized demonstration was fired on by police, and a vicious civil war began, in which British military intervention brought the ELAS forces within two months to the agreement signed at Varkiza in February 1945, with Archbishop Damaskinos as Regent and General Plastiras, who had been living in exile in southern France since 1936, as Prime Minister.

The Plastiras government was followed by a series of short-lived governments which, after a vain attempt to preserve national unity by producing a series of ever more aged parliamentary leaders, began to move to the right. The March 1946 elections were boycotted by the left, including even sections of the old non-communist left, in protest against the increasing backlash of the "white terror". Monarchists won 65 per cent of the valid votes, and a plebiscite in September voted by 68 per cent for the return of the monarchy. But "white terror", working in the same direction possibly as Tito's ambitions for the creation of a Balkan bloc of people's democracies under his leadership, led to the reassembly of partisan bands in the mountains and the beginning of the "third round" of the civil war, led by "General" Markos intent on establishing "liberated areas" in the mountains. By then, however, the United States had replaced Britain as Greece's tutelary power, although British forces were not finally withdrawn until 1951. Tito's break with Soviet Russia in April 1948 deprived Markos of his main sources of arms, food, money and rest and recreation camps. Within a year his forces had been driven from their final mountain fastnesses across the Albanian border.

How then are historians to see these events? Were they the outcome of deliberate British, or American or Soviet "aggression" – or manipulation of Greek politics? Or were they the result of the drawing-in of the major powers of the successful wartime coalition by their respective clients within the sphere of political conflict in Greece? Nowhere in these books is there a satisfactory answer to these questions, though their preoccupation with the Greek scene would tend to suggest the second of these two explanations. But since no one has as yet produced any intelligible explanation of the nature of the patron-client relationship, how it worked and why the patrons were so sensible to their client's appeals and/or manipulation, the open-minded historian can go no further than to speak of "probabilities".

Not that many of these writers can really be described as "open-minded", nor do they always give the impression that they would regard open-mindedness as a virtue. Dr Loulis disapproves of the Greek Communist party which he convicts of the attempts to seize power by force and four attempts to take power by "infiltration" of the Greek government in exile. Professor Wittner on the other hand convicts American policy-makers of destroying all but the anti-democratic right wing of Greek politics. (although America's intervention in 1947 and afterwards was undertaken in the name of political and economic reforms), a view which would seem very largely to be shared by the contributors to the latter part of Professor Iatrides's volume.

What one misses amid the – very Greek – passion of these writers (and it cannot be easy not to be passionate about the course of Greek politics in this century) is the political perspective which could come both from treating Greek history over a longer period of time and from treating events in Greece within the period 1949–1952 in the wider context of Anglo-American-Soviet relations. Britain in fact figures very much less than the United States in these books, an historiographical observation which is particularly striking in the two papers in the Iatrides volume by Heinz Richter, and Mavrogordatos, who cower between them the period from the supression of the December 1944 insurrection to the dramatic declaration of American intervention made by President Truman in February 1947, the "Truman Doctrine".

During this period the British ambassador in Athens, Sir Rex Leeper, Sir Walter Citrine, general secretary of the British TUC and many other British agencies, financial, military, economic and so on, were both interested and involved in Greek politics which in most cases they saw from the standpoint of British interests and in the light of their own interpretation of Soviet attitudes and intentions.

Leeper was an Australian by origin, one of those few British diplomats whose opposition to appeasement in the 1930s had gone so far that he is said to have been kept under surveillance by MI5 on suspicion (in fact quite justified) of breaking the Official Secrets Act by leaking details of British policy to conservative and journalistic critics of Neville Chamberlain's policy. Citrine was as bitterly anti-communist as he was determinedly Labour in his politics. Communism represented to him an attempt to divide and manipulate the British Labour movement, whose only strength lay in its unity of counsel and purpose. These are not the by figures of British imperialism which Richter, Wittner and others depict. Their views had been formed during the 1920s and 1930s, and fixed by events of 1930–1941 when Stalin and Hitler had collaborated to supress democracy, the only hope of evolution towards democratic socialism. It is perhaps a tragedy that they contributed towards the revival in Greece of the nationalistic authoritarian right; but to pretend that any but a small spectrum of Greek political life was interested in democracy and civil rights in general, as opposed to their own civil rights, is greatly to misrepresent the priorities of Greek political activists, or the main issues which divided them. Greek politics clearly centred on the capture of political power not on the democratic acceptance of limitations or inhibitions on its exercise.

Professor Iatrides himself can be largely excluded from this censure; the reviews with which he begins each of the four sections of the book are among the most sensible and balanced surveys of Greek history of the 1940s available. In so far as he attributes responsibility for the course of events to Britain, it is on very different grounds than Richter *et hoc genus omne*.

Iatrides's volume is much the best of the three. Its principal weaknesses reflect the lack of consensus among historians of Greece in these years, and between Sovietophobe and Americophobe historians of Greece's role in the opening stages of the Cold War. Professor Wittner's book already needs rewriting in the light of the British archives available for the years 1945–51, and rethinking in the light of the now accepted multipolar nature of the opening years of the "Cold War". Dr Loulis's book is valuable – his major contribution is to demonstrate that the KKE turned to confrontation only when their policies of infiltration had failed – but I cannot see it carrying much conviction with those for whom British and American policy in 1943–47 is viewed as the fount and origin of the Greece of the Colonels, which reigned absolute during the formative years of so many of the authors so ably marshalled by Professor Iatrides.

Greek history is not for the squeamish, the soft of heart and head, or those who constantly repeat the cliche that Greece first gave us the concept of democracy while forgetting that she also gave us tyranny, oligarchy, demagogy, and "stasis" – or permanent and mutually destructive civil war.

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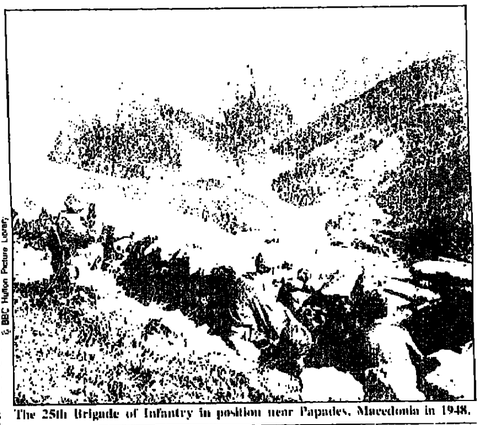

The 25th Brigade of Infantry in position near Papades, Macedonia in 1948.

BOOKS

Decade studies

Edwardian Fiction
by Jefferson Hunter
Harvard University Press, £12.25
ISBN 0 674 24030 8
G. K. Chesterton and Hilaire Belloc: the battle against modernity
by Jay P. Corrin
Ohio University Press, £14.70
ISBN 0 8214 0604 3

What, if anything, do we mean by the term Edwardian? Jefferson Hunter's survey is largely confined to works published during the King's reign (1901–10), which brings it into the now fashionable category of "decade studies". These offer a subjective weaving-together of an accidental selection of literary material (accidental because of the vagaries of critical memory and publication dates), which is then solemnly presented as cultural history manifesting the "sense of a period". If this description betrays prejudice, then I must plead guilty.

My prejudice was almost but not quite shaken by *Edwardian Fiction*, which both in writing and production is a very superior example of its kind. It may be enjoyed as an anthology is enjoyed, or as an art exhibition in which works normally consigned to the lumber-room are dusted and put on show beside their more familiar contemporaries. The process is unfair to the works of adjoining periods left in the lumber-room – in this case, notably, to the 1890s – and it leads to more new connexions and juxtapositions than can possibly survive closer inspection. Nevertheless, an original and stimulating personal view of the period is put on display.

Following an off-the-cuff reference by H. G. Wells, Hunter looks on the Edwardian years as a "Balfourian" age. The allusion is both to Balfour's *Defence of Philosophic Doubt* and to his somewhat hesitant statesmanship. Edwardian writers had an appetite for facts that far outran the patterns and systems they were able, or willing, to impose upon them. But scepticism with its attendant insecurity often betrayed them into un-Balfourian indirections, whether in the form of Wells's tendency to emotional and imaginative dissipation, or James's "relentless language of aesthetic obsession", or Conrad's "reckless expenditure of style [in *Heart of Darkness*] on a mere hundred pages of novella".

Although the author disavows any intention of radically revising the Edwardian canon, the prominence he gives to Wells as the arch-commentator of the age shows how substantially critical reputations have shifted in the last twenty years. Wells's extrovert personality and multifarious concerns make him the best possible link-man for such diverse figures as James, Conrad, Bennett, and (less intimately) Kipling, Galsworthy, and Forster. But is it fair to Wells, or to his contemporaries, to make him the central figure in this particular story? He neither began nor ended as an Edwardian. His distrust of fiction as a self-contained mode, and his strenuous attempts to merge it with other forms of social discourse, took him way beyond the academic boundaries that *Edwardian Fiction* takes for granted.

If Wells was the arch-commentator among Edwardian novelists, it was because none of the others was sufficiently extrovert to keep answering back. But not all his contemporaries were so Balfourian in their literary manners. Hunter touches on G. K. Chesterton, but he barely mentions either Hilaire Belloc or the irrepressible Bernard Shaw, who coined the famous group noun "the Chesterbelloc". This, Shaw said, was a "pantomime elephant or unnatural beast", representing the mistaken union of two of the age's most vociferous ideologists. Jay P. Corrin's very useful book is not a literary study – his literary assessments are perfunctory in the extreme – but a political biography of the Distributist movement, or "Chesterbelloc alliance" as he sometimes calls it, and an examination of the "Chesterbelloc world view". It was indeed an age of competing world views, pungently and sweepingly expressed and on sale at any good newsagent. This unrelenting journalistic competition went on until the late 1930s, when Chesterton died and the muddled Distributists gave way to the dreary vicissitudes of Fascism. Chesterton began by blasting some of his contemporaries in *Heretics* (1905) and gave his own answer to Balfourianism in *Orthodoxy* (1908). Here we see some of the dichotomies that "decade studies" like to gloss over in their search for paradigms, mutually balancing alternatives and a finally exhibitable consensus.

Edwardian Fiction has other omissions. The author shows little liking for Edwardian humour and, when he writes apropos *The Waste Land* that "the world of drying combinations is what engages the sympathy of Edwardian writers", he is certainly not alluding to Edwardian naughtiness. He is not interested in foreign influences on English writers or, really, in the proletarian's influence on English society. He does not mention the reports of the Poor Law Commission, nor *The Ragged Trousered Philanthropists* (written *circa* 1906–10), nor any of D. H. Lawrence's writings. But he has discovered one forgotten working-class novel, *Raw Material* by Phyllis Bottome (one of the very few women writers he acknowledges), and he raps Forster over the knuckles for *Howards End*'s unconcern with the poor.

Some of the "symbolic moments" of Edwardianism that Hunter selects are rather strange, and two of them, the publication of *The Invisible Man* and Stephen Crane's Christmas party at Brede Place, occurred during the previous reign. But these are forgivable lapses in an elegant and balanced account, which pays its respects to the major reputations without being overawed by them. Imperialist guilt, the myth of adventure, the sense of the past, rural retirement, house-building (seen by Arnold Bennett as analogous to fictional composition), and metropolitan bewilderment are some of the structures of feeling he memorably examines.

The Edwardians may have lacked a truly great novelist, and they may have wanted a critical attitude, as Ford Madox Ford maintained. But Jefferson Hunter rightly celebrates their success at getting new realities, and fresh views of existing realities, into their fiction.

Patrick Parrinder

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Story lines

The Narrative Modes: techniques of the short story
by Helmut Bonheim
Boydell & Brewer, £17.50
ISBN 0 85991 086 5

"We not only do not know what a short story ought to be, but we do not want to know," proclaimed L. A. G. Strong in 1932, displaying perhaps the Anglo-Saxon mistrust of categorization which Helmut Bonheim, in *The Narrative Modes*, now hopes to wear down.

Encouraged by the way "systematic approaches to fiction" have been gaining ground in the English-speaking world, Bonheim offers a "model of narrative modes" which is intended to help us identify the characteristic devices of the short story. But although the book is prefaced by a slightly bashful explanation that it is "Teutonic" in approach, containing statistical tables which could alienate some readers, it is not nearly as alarming as this (or the later description of a text as "a cadaver to be dissected") might suggest.

Bonheim's main contention is that "the staple diet" of novels and stories is made up of four modes – description, report, speech and comment – which occur in different sequences and proportions according to the writer's aim and, to some extent, his period. A large sample, drawn from anthologies covering more than a century of story-writing as well as from very recent Canadian works, is used to explore such topics as the use of speech, short-story beginnings, and the kinds of ending favoured by the genre. It is when Bonheim is examining the practical application of the rules he believes govern the construction and pacing of a short story that he is at his most convincing. Because he acknowledges that "model-makers" can become enslaved by their love of categories, he is careful to emphasize that what his demonstrations reveal are tendencies, rather than laws; in many cases, he points out, the constraints involved in the art of the short story are not conscious matters – for either the story-writer, or the reader.

The advantage of all this is that Bonheim is willing to accept paradoxes without setting to resolve them. And he can admit that it is harder to explain why the "balance of modes" varies from one age to another than it is to verify what the modes are, and how they operate. What emerges is an understanding of the artfulness with which many short-story writers observe conventions only by stretching, or even breaking them; we get a clear sense of the genre's disposition towards what are here called "modal façades", as well as of its ability to oppose the trends which are sometimes said to constitute literary progress.

Of particular importance in this regard is Bonheim's statement that, compared with the novel, the contemporary short story "has only a little to offer in the postmodernist way", the so-called "open" story-ending being something of a myth. Openness, Bonheim argues, is really a function of the reader's response, and while it is true that few twentieth-century stories end as emphatically or didactically as they did in the past, the modern story-writer is apparently no less keen to give his story a unifying conclusion; techniques for achieving this may be more subtle, but the impulse not to leave the reader totally baffled is there all the same. The completely "open" ending is therefore an ideal which, if actualized, would strike readers as flawed; and any critic who claims to have found such an ending is actually confessing that he cannot come up with an interpretation.

Clearly, Bonheim has no desire to see his system "replace the intelligent reading of a sensitive critic", and he knows that his charts and tables are simplifications of the myriad possibilities available to the story-writer, who can combine "modes and submodes" in any number of ways, regardless of disagreements among the theorists as to terms like "free indirect speech", or even "short story" itself. But although many texts elude Bonheim's "theory of structure", the clear cases which do fit neatly into his "boxes" tending to be weak artistically, the result is not to destroy the usefulness of his method; the test must be whether our reading of great short stories is enhanced – if only by making us more alive to the writer's discovery of "new ways to break with traditional practice". As Bonheim puts it, "laws make criminals".

The remark applies equally well to *The Narrative Modes*, one of the merits of which is that it represents a departure from the literary orthodoxies outlined in the first – and by far the least interesting – chapter. The thoroughness of Bonheim's references to other authorities in his field makes it obvious that he does not want to put himself beyond the pale of current literary theory, but in fact the more "criminal" he becomes in his attitudes towards theoretical laws, the closer he comes to Strong's position of not knowing, and not really wanting to know, "what a short story ought to be" – and the more persuasive do his own observations become. Or so, at least, it seems to this Anglo-Saxon reader.

Valerie Shaw

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The third and revised edition of Richard D. Altick's textbook, *The Art of Literary Research*, has just been published by W. W. Norton at £10.50 (ISBN 0 393 95176 6).

"The Cyder Feast", a wood-engraving of 1828 by Edward Calvert. It is reproduced in "The World of the English Romantic Poets" by John Purkis Heinemann Educational, £12.50.

Public demand

Byron: a poet before his public
by Phillip W. Martin
Cambridge University Press, £18.50 and £6.95
ISBN 0 521 24186 3 and 28766 9

Even the admirers of Byron have always been puzzled to account for the blemishes which disfigure much of his poetry. Contemporaries such as Goethe observed that, although Byron was a great poet, he was nothing more than a child when he began to think. More recent interpreters have tended to ignore the glaring lapses from grace, the naive versification, the unevenness of performance and the apparently effortless lack of distinction by avoiding the perplexing question of Byron's language and concentrating on his "ideas". For them it would seem, poetry is that which is *not* lost in translation, which might help to explain how their emphases have a good deal in common with those of Byron's European admirers, some of whom were not intimately acquainted with the English language.

Philip Martin's difficult but important book does not make this mistake; it numbers among its virtues a keen attention to the behaviour of language and a critical open-mindedness which is not afraid to pass harsh judgment on Byron's deficiencies. The Turkish tales cause him to write of "poetic doodling" and to wonder "where capriciousness ends and facetiousness begins"; the fourth canto of *Childe Harold* exhibits a "bankruptcy that is postponed by spinning the poem out to its inordinate length"; *Manfred* is "a very bad drama"; *Cain* is "as potent an affirmation of Byron's bankruptcy as a philosophical poet as we are likely to find" while it is also "bad poetry and worse drama" and "has nothing behind it other than a rather frivolous attempt to be offensive".

Selective quotation such as this may do some injustice to the complex fabric of Dr Martin's argument but there can be no doubt that his reading of Byron is marked by a critical sharpness which is generally justified but which can sometimes turn into asperity. The effect extends beyond the poetry and seems at times to involve treating Byron as a rather dim-witted and indolent peer whose intellect cannot cope with the corruscations of Shelley's metaphysics or with ideas of any kind. *Childe Harold IV* even provokes Dr Martin into suggesting some kind of guilt association when he refers to Byron's indolent recourse to "the likes of Mrs Radcliffe and Winckelmann", as if Winckelmann too were an example of diminished intellectual responsibility.

Yet, for the most part, this sharpness is salutary. The ultimate aim is not to dismiss Byron's works from critical consideration (though some of the judgments might have that effect) but to set them in the social, historical and cultural context which helped to produce them and which influenced many of Byron's assumptions about the nature of poetry and the relation between the poet and his public. Everyone knows that Byron has an unique relationship with his reading public but no one has examined the nature and consequences of that relationship with such insight or with such informed understanding as Dr Martin. His thesis is that, for a variety of reasons, Byron's approach to the production of verse was never entirely serious, and that the instability of many of his poems results from a lack of artistic commitment and from the ambivalence of his feelings about his role as a poet.

After the early success of *Childe Harold*, Byron consciously exploited the commercial possibilities of the market yet despised the notion of poetry as a trade. The nature of his success encouraged him to indulge himself by writing poetry which he knew to be inferior but which, as he rightly anticipated, also suited the undiscriminating requirements of his exceptionally large reading public. Dr Martin finds that this new public for poetry, a public which was mostly beyond the reach of the other Romantics, was partly to blame for Byron's frequent abdications of poetic responsibility. Byron knew that he could get away with it and he also took advantage of the limited experience of his readers by flaunting, for example, an exotic oriental vocabulary. Dr Martin rightly underlines the ways in which this separates him from Pope and the ways in which Byron was supported in this effortless superiority for much of his career by the extravagant acclaim of the reviewers, notably of Jeffrey.

In effect, this was an endorsement for poetry which was unadventurous and sometimes bad but which conformed to somewhat old-fashioned principles of decorum and propriety. Even a play such as *Manfred* was much conditioned by the contemporary conventions of great acting and of spectacular staging and perhaps by the example of Philipsthal's Phantasmagoria, with its scope for creating ghostly illusions. In *Cain* Byron did attempt to be offensive and succeeded but, according to Dr Martin, the play does not achieve artistic autonomy and it is negligible in literary or intellectual terms.

In the end, one is not surprised to find that *Don Juan* alone is accorded substantial literary credit in this survey. Dr Martin has some acute things to say about the way in which the *ottava rima* and a variety of Italian traditions provided Byron with a framework which was ideally suited to his own hesitations and conflicting feelings about the status and value of poetry. Here, at last, Byron was liberated from the need to appease or gratify his public or anyone but himself. That even this liberation was not permanently achieved and depended primarily on the verse-form is demonstrated by the failure of the other poems and plays which were written during the years when he was at work on *Don Juan*.

Finally, and slightly digressively perhaps, we are provided with contemporary contexts for the proper understanding of the shipwreck and of Byron's use of Suwarrow. Here, as elsewhere, Dr Martin's approach is highly selective and, although his exposition of the intellectual background is very instructive, one has a slight suspicion that he credits Byron with an implausible degree of irony or, at best, that the text itself is open to other interpretations.

Even if Dr Martin is sometimes less than generous to the positive qualities of Byron's poetry, his book is an important contribution both to our reading of Byron and to our understanding of the complex cultural forces which helped to produce the poetry of the Romantic period.

Timothy Webb

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BOOKS

Holy wars

The Muslim Discovery of Europe
by Bernard Lewis
Weidenfeld & Nicolson, £12.50
ISBN 0 297 78140 5

At several points in the Falklands affair it seemed to observers that the Argentinian leaders, and to a lesser extent the British, were ignorant both of how their opponents saw and understood the situation, and of how they would react. Something similar is probably true of most of the other conflicts in the world today. Bernard Lewis's book illustrates with a wealth of documentation how in the millennial "affair" between Islam and Christianity the Muslims passed gradually from ignorance of the opponent to a degree of knowledge. The plentiful material Lewis employs is chiefly from the heartlands of Islam, in particular the Ottoman empire, but there are one or two references to the peripheral Islam of the Indian subcontinent.

Because the Muslims found their identity in religion, they thought of their opponents in religious terms. From an early date they regarded the world as being divided into the House of Islam and the House of War; in the former a Muslim sovereign ruled in accordance with the divine law of Islam, while the latter was the sphere of the *jihad* or "holy war", and it was confidently expected that it would in due course be brought into the House of Islam – an expectation fostered by the phenomenal expansion of the Islamic empire in its first century. Within this empire and the states on its north-western frontiers Christians were much more numerous than Jews and so came to be regarded as the "infidels" *par excellence*, at least by the Ottomans; and from its origins the Ottoman empire was penetrated "by a sense of mission in the Holy War" against the European infidels.

The conception of the Holy War is a matter on which it is important that the contemporary West and the Islamic world should understand one another. The aim of the Holy War is to extend Muslim rule, but this does not necessarily imply making converts to Islam. On the contrary Christians, Jews and other "peoples of the Book", if they submitted to Muslim armies, normally became "protected minorities" (*dhimmis*) in Islamic states with a measure of internal autonomy. As Professor Lewis notes Muslims were less bigoted and intolerant towards Christians than Christians towards Muslims.

A slight criticism to be made of his book is that at one or two points Professor Lewis unduly emphasizes the Holy War. Its renewal by the Ottomans was hardly "evoked" by the Crusades, as he suggests, since the Crusades "stirred hardly a ripple of curiosity in the lands of Islam" but was presumably due to the position of Constantinople and the Byzantine empire – the European infidels – as the main obstacle to Ottoman expansion. Both then and in the present century, when Muslim rulers declare a Holy War, they are in effect saying for the encouragement of their armies that this war (in which their primary aims are usually political and economic, not religious) is a war of which God approves and in which he will help them to victory.

The outstanding point to emerge from the book is that the Muslim governing elites were for long completely ignorant of European, especially western European, affairs, and were also surprisingly lacking in curiosity. This arose largely from the belief in the superiority of Islam as a religion. Muhammad had accepted Jews and Christians as fellow-believers in God, but when they rejected the revelation he had received he was forced to conclude that they had corrupted their own revealed scriptures and deviated from them. The western Europeans first encountered by the Muslims in Spain and elsewhere were at a lower cultural level, and were seen as barbarian infidels from whom nothing was to be learnt. This attitude hardened with time, and lack of interest in things European persisted even after the Ottomans were campaigning in central Europe. Only when they realized that the Europeans were militarily far superior to them did they begin to be interested in learning from them and about them. Military science was first. Later came geography, history and contemporary politics. The products of European technology were acquired, but their religious scholars prevented the training of Muslims in infidel techniques. As late as 1770 they thought there was a channel through Europe from the Baltic to Venice, and, when a Russian fleet appeared in the Mediterranean, officially protested to the Venetians for having allowed them to pass through this channel.

This book pioneers a fresh area of study and provides material for further reflection on the important contemporary question of the relationship between cultures.

W. Montgomery Watt

W. Montgomery Watt was until recently professor of Arabic and Islamic Studies at the University of Edinburgh.

Silent struggles

Medieval Slavery and Liberation
by Pierre Dockès
translated by Arthur Goldhammer
Methuen, £15.95
ISBN 0 416 33970 0

"How and why did ancient slavery come to an end?" Marc Bloch's question still lacks a satisfactory answer, and has been surprisingly little discussed. At the time of the barbarian invasions there were many slaves in every part of Europe; by the twelfth century the peasantry everywhere had been tied to the land and reduced to a uniform dependence on the lords, but slavery had disappeared.

It is doubly disappointing when we have reduced ourselves to such a pass that books must be translated even from French if they are to be noticed by anybody except specialists, that this one, on a subject of such obvious importance and interest, has very little to contribute. That M. Dockès, professor of politicat economy at Lyons, has the fruits of no original research to offer, and even that his command of medieval society and its structures is less than intimate, though he is widely enough read in secondary accounts of it, need not have been fatal disadvantages. In a subject like this there is always room for a fresh approach, and Dockès does not entirely fail to produce one.

His critique of Bloch's generally accepted (and not so crudely expressed) conclusion that gang slavery came to an end because it ceased to pay is cogent and vigorous; he shows how little real basis there is for supposing that it was in itself unproductive or unprofitable, that the landlords of late antiquity would have noticed if it was, or that they could not have maintained the slave population by reproduction when warfare failed to keep up the supply. His numerous analogies from other slave and quasi-slave societies, though none is systematically explored or sustained and many of the conclusions he cites are at least controversial, undeniably lay open to question medievalists' conventional wisdom on the economics of slavery.

The constructive part of Dockès' case is not so strong. The extra ingredient which he invokes is class conflict, "not only open, armed conflict, the great recorded uprisings of history, but also the silent, unending struggles that went on day in and day out." In consequence gang slavery could be maintained only by a degree of coercion which required the support of the state as its ultimate guarantor, and therefore could not survive the state's disappearance.

This is valuable not least for bringing the role of the state in the maintenance of slave systems to the centre of the argument. It would have been more valuable still if Dockès had devoted more space to supplementing the attempts of E. A. Thompson, J. P. Poly, Rodney Hilton and others to collect and assemble the difficult and fragmentary evidence of this omnipresent conflict, instead of scorning as bourgeois the sceptical historians who have persisted in asking not so much whether as how, when, and in what forms it existed.

All this is more than worth thinking about, but extracting it from the book is a singularly dispiriting task. The author's preoccupation with theoretical approaches is not in itself, as this shows, unfruitful, but it is pursued with an indulgent luxuriance in the by-ways of Marxist and neo-Marxist semantics which only the most devout sectarians will be able to take seriously. The argument is continually disrupted by lengthy disquisitions upon works exhumed for the purpose from deserved obscurity. The effect is exacerbated by a translator who, far from thinking it his business to clear the reader's path through a dense fog of jargon and abstraction, revels in it to the extent of dealing with expressions which have no direct equivalent in English by the simple expedient of anglicizing them, to produce words like "censive" and "economism".

The result is a book which is quite unreadable, and for long stretches incomprehensible: specialists will want to read it, but will be even better advised than usual to do so in the original.

R. I. Moore

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Verve and panache

Herodotus and Greek History
by John Hart
Croom Helm, £13.95
ISBN 0 7099 1224 2

The creativity and achievements of the Greek intellectuals of the fifth century BC are something that we have come to take for granted. But it is still difficult not to be astonished by Herodotus, who virtually invented the craft of history as we know it, and anthropology too while he was about it.

Born at Halikarnassos (now Bodrum on the Turkish coast), where the fringes of the Greek world and the Persian empire overlapped, it was perhaps natural that he should take as his theme the growth of that empire and the East-West confrontations that reached their climax in the early fifth-century invasions of Greece by Persia. To gather evidence, he travelled extensively – to Babylonia, to Russia, to Egypt – at a time when travel must have been slow and frustrating; and he went around the cities of Greece questioning, sifting and piecing together their various, and sometimes conflicting, oral traditions.

The result of these pioneering inquiries might easily have been a heap of disorganized information, or a downright muddle. In fact, the *Histories* of Herodotus are a triumphant success. He is the most attractive and delightful of all Greek authors: friendly, fascinating, perceptive and inexhaustible. He is also one of the most self-explanatory. You have only to pick up the Penguin, and read. There are none of the alien conventions of tragedy, none of the conceptual difficulties of the philosophers, none of the untranslatabilities of lyric. Perhaps for that reason there are few satisfactory books about him.

The first questions a reader will ask are: Can all this really be true? Did the fish really return the ring to Polykrates? Do camel's genitals really point backwards? Did the Phoenicians really circumnavigate Africa? Did the Scythians really inhale cannabis? What on earth are the flying snakes of Arabia? On such matters he will not be seriously misled by the standard commentary of How and Wells, though it is now seventy years old.

But a commentary is a very different thing from a good, up-to-date general account, and hitherto such a thing has simply not existed. All the books on Herodotus have had drawbacks or idiosyncracies; there has been nothing to which the reader could be safely and unreservedly referred. Now the gap has been filled, or at least half-filled, by John Hart, senior classics master at Malvern College and Mastermind emeritus. I say half-filled, since Mr Hart's theme is Herodotus and the *Greeks*; apart from a few pages on Scythia and the occasional visit to the Persian court, the title indicates precisely what the book is about.

Hart plunges straight into a discussion of the Athenian noble families, making good use of John Davies's prosopographical researches. A chapter on religion, fate and oracles contains inter alia an excellent statement of criteria for deciding which oracles are genuine utterances. Herodotus's political vocabulary is examined, then his views on tyrants, oligarchy and democray. Hart devotes the next chapter to war, a central subject; and before long takes us over well-trodden ground, the successive battles of the Persian invasions. Next, individual personalities are discussed: Dareios (but not Xerxes), Kleomenes and Demaratos, Themistokles and Pausanias. In the final chapter Hart considers Herodotus's life, the effects that contemporary politics would have had on his history and the effect that his history would have had on his contemporaries, and the nature of his work. There are thorough indexes. The style of bibliographical references is unorthodox, but much may be forgiven of a system that produces Lionel Credulity and Mabel Herodotos.

In a book packed with detail, there are bound to be numerous points on which scholars will disagree. I do not believe that Megakles was ostracized twice, that Oedipus's sin is hybris, that Kleomenes only came round to an anti-Persian policy late in his reign, or that the Egyptian squadron blocked the west channel of Salamis; Mr Hart does. Still less do I believe that Herodotus's defence of the Alkmeonids is irony or satire, or that Herodotus suffered from the Athenian citizenship law of 451/0, or that the Persians might have bypassed Salamis, or captured Kythera, feats that were impossible in view of the trireme's need for a friendly coast for eating and sleeping (there was no room to do such things on board ship).

These however are details. Much more important is the fact that Hart makes straight for the major issues, and discusses them clearly, intelligently and readably. Anyone who wants to increase his knowledge of Herodotus, whether anxious A-level candidate, enterprising school teacher, conscientious undergraduate, tired lecturer or curious non-classicist, can confidently be directed to Hart for a well-informed and lively discussion. He writes with verve and panache, in a jaunty and frequently colloquial style. Demaratos is "a nice chap". Mardonios speaks in "a brash shoot-from-the-hip style", and "Uncle" Artabanos receives "a ferocious wigging from the king". Some may wince; others, like myself, may find it a refreshing change from, say, Hignett's ponderosity – and, of course, it's not *all* like that.

What matters more is that Hart does not waste words. Indeed, it is surprising just how much he manages to pack into a text of less than two hundred pages. He provides answers to only two of the questions with which we started (they are, respectively: no; yes; yes; yes; pass), but that is because, as we have seen, he sticks to Herodotus and *Greek* history. He gives us only half a Herodotus. Perhaps he might be induced to write a sequel on Herodotus and the Near East, or Herodotus the anthropologist. But first of all his publishers should bring out this book in paperback.

David Harvey

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BOOKS

Matters of life and death

Judicial Review of the Death Penalty
by David Pannick
Duckworth, £18.00
ISBN 0 7156 1594 7

Most lawyers' initial reaction to the title of this book will be that it is of pretty peripheral interest in Britain. Judges are used to deciding the propriety of particular sentences in particular cases, but the constitutionality of a type of sentence is the kind of issue best left to the Americans; and besides, the death penalty has been abolished here for 17 years.

On the contrary, the issues addressed in David Pannick's absorbing book are of potentially central importance to the judicial process in Britain: first, because constitutional challenges to legislation (albeit not the particular kinds under discussion in this book) are a distinct possibility in the near future should the tide of a written constitution, a Bill of Rights, or even good old devolution actually come in; second, because British judges *do* have to review the constitutionality of the death penalty, sitting in the Privy Council as the court of last resort from some Commonwealth countries which retain capital punishment; and third because the making of legislative choices is a judicial function which is only most sharply witnessed in constitutional cases, and which needs to be more clearly appreciated because the British legal systems are too poorly equipped to cater for the making of such choices.

In his introduction Pannick sets out in succinct and persuasive view of the law-making role of judges, and emphasizes in particular that decisions not to intervene are as value-laden as intervention, and that activism among judges *may* be as much a victory for the right as for the left (as all good Denning-watchers know perfectly well). The important point is that the judge has a choice which of two interpretations to prefer, or which of two courses of action to adopt, and that the choice may not only be responsible for major social consequences but also involve particularly delicate or demanding processes of decision-making. Nowhere is this more apparent than in cases involving the death penalty, almost always presented in terms of one man's life – the ultimate hard case, and the most rigorous test of the mettle of judges and the judicial process.

Of the materials discussed, most, predictably, are from the American courts. The US supreme court has been taxed with this issue many times in recent years, and its track record has improved somewhat since the decision in 1947 that it was not "cruel and unusual punishment" to send a man to the electric chair a second time after the current had failed first time round. While only a minority of the Supreme Court has held capital punishment as such to be unconstitutional, a combination of the restrictions on its exercise laid down in the cases and the litigation strategy of defence attorneys has brought a virtual end to executions (which, as Pannick points out, serves to strengthen the argument that the death penalty is unconstitutionally arbitrary in its implementation).

The recent execution of Frank Coppola has renewed speculation that a spate of executions can be expected to begin shortly, but it remains to be seen whether the ingenuity of defence attorneys will be overcome or exhausted. The fact remains that there have been only five executions in the last 15 years, and four of those executed have expressed a wish to die.

Material from many other jurisdictions is also discussed, ranging to the edges of eccentricity with the Indian Supreme Court judge who doubted the validity of the supposed deterrent effect of death because of the prospects of reincarnation. Considerable attention is also focused on the contribution of the Privy Council, especially the decision in *Ong Ah Chuan v Public Prosecutor*, which attracts critical analysis in no less than six separate chapters. It is, as with much else in the public law work of the Judicial Committee, a sobering poor track record which must give pause to advocates of a British Bill of Rights.

While this is in many ways an admirable book, the author has not solved the dilemma of organization in a book which covers several jurisdictions and several discrete aspects of the constitutionality of capital punishment. He has chosen to deal aspect by aspect rather than jurisdiction by jurisdiction; the resulting effect is disjointed, and we are deprived of any clear statement of the overall legal position in the countries surveyed – an omission of some moment at least for the USA.

However, perhaps the greatest value of the book for an English lawyer is not the questions it answers so much as those it does not even ask, but which the reflective reader should be prompted to ponder. Despite the truism that "death is different" and therefore greater demands are made on the legal system when it has to decide whether an individual must suffer it, capital punishment is only the most extreme in a graduation of coercive sanctions open to a state. If it is true that, as Justice Chinnapa Reddy of the Indian Supreme Court has said "the burden of capital punishment falls more frequently upon the ignorant, the impoverished and the underprivileged"; and that this is a potential ground of challenge for denial to defendants of the equal protection of the laws, can it be assumed that only *capital* punishment is susceptible to this class bias? And if not, why should only capital punishment be subject to constitutional attack? If mandatory death sentences are improper for disproportionality (as the US Supreme Court has held), what of other mandatory sentences? And if to give an unfettered discretion in sentencing to the court in capital cases is unconstitutional (as the US Supreme Court has also held) what of the general run of sentencing powers? Why do we only demand adequate judicial procedures when life itself is at stake?

Peter Wallington

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Last court of appeal

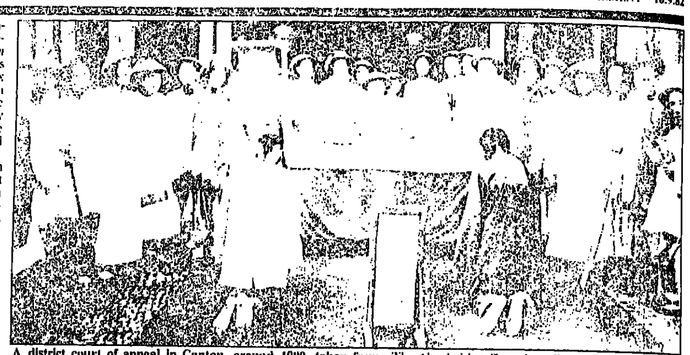
The Law Lords
by Alan Paterson
Macmillan, £12.00
ISBN 0 333 23886 9

A lot of promising empirical social science research never gets off the ground because of difficulties, real or imagined, in gaining access to necessary data.

This is particularly the case with investigations into the inner workings of public sector institutions, where the regrettable antipathy of busy people towards eager sociologists armed with clipboards and tape-recorders is reinforced by the egregious secrecy of British government. In many cases a would-be researcher simply *assumes* that access will not be forthcoming and retires to the comfort of his library, where the written word offers more passive resistance to his investigative skills.

But it does no harm to ask. Even the busiest people may be flattered to be the subject of serious scholarly inquiry and may indeed be keen to seize a rare opportunity to launder their public image. The Whitehall "expenditure community" was always assumed to be impenetrable to outsiders, until Hugh Heclo and Aaron Wildavsky managed to talk their way into it. Now Alan Paterson, a Scottish academic lawyer, has similarly redefined the limits of the possible by talking to senior judges, and getting some very interesting answers.

The subject of this book is the dynamics of the judicial process in the House of Lords; it concentrates on the period 1957–73. Using a broad



A district court of appeal in Canton, around 1900, taken from The Cambridge Encyclopedia of China edited by Brian Hook (Cambridge University Press, £18.50).

interactionist framework, Paterson focuses on the role and performance of Law Lords in "hard cases", that is appeals "where there is legitimate room for debate between the parties as to the existence, scope and applicability of one or more common law rules or principles". He is concerned with the scope that exists – in a system in which judges are regarded as strong, independent and apolitical, and where Parliament is "sovereign" – for judicial creativity; and how the Law Lords perceive their scope for such creativity. To this end, Paterson evaluates a large volume of published material (judgments, public utterances of judges and counsel, biographies, academic texts and commentaries) alongside material gleaned from interviews with 28 judges, 26 QCs and seven junior counsel. Nine of the 15 active Law Lords agreed not only to be interviewed but also to be tape-recorded; only four declined to take part.

The earlier chapters consider, through the eyes of the participants, the processes of courtroom interaction and the significance of the various reference groups to which Law Lords might be expected to have regard when acting out their roles. Their primary reference group, it seems, comprises their fellow Law Lords. Academic lawyers, readers of *The THES* will be disappointed though probably not surprised to discover, exercise but a feeble and intermittent influence over the Law Lords – though there have been illustrious exceptions, such as Professors Goodhart and Cross.

This material adds to our understanding of the more visible aspects of the Law Lords' work. Even more fascinating is the later material concerning the private workings of the court and the dynamics of judgment-writing. We learn, for instance, that Law Lords seldom "lobby" colleagues to persuade them to alter their views: here and in other contexts Paterson brings out the contrast between the House of Lords and the United States Supreme Court (mainly, one suspects, because so much of the academic literature relevant to his own work comes from American sources).

We also gain novel insights into the various views of senior judges about such matters as the rationale of dissenting judgments and the desirability of conflating separate opinions into a single "judgment of the court". The late Lord Reid is shown, in this and many other contexts, to have exerted an important influence over his colleagues during the time (1962–74) when he was senior Law Lord, firmly but gently steering the court into a more creative, less formalistic phase, and playing a crucial role in the genesis and subsequent interpretation of the 1966 Practice Direction, permitting the House of Lords to overrule (openly as well as covertly) its own previous decisions. Lord Reid's antipathy towards single "judgments of the court", shared by most of his colleagues, stemmed from his belief that, where the House of Lords breaks new ground, the existence of multiple judgments allows more scope to future generations of judges to adapt precedents to changing circumstances.

This is an original piece of work, which valuably complements earlier studies by, for example Robert Stevens, and which provides invaluable insights into important areas of jurisprudence. In passing, Paterson uses his data to good effect in criticising the work of other scholars, such as J. A. G. Griffith and Ronald Dworkin. It would be interesting to discover the reactions of the Law Lords themselves to this book: perhaps someone should interview them to find out.

Gavin Drewry

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Ahead of his times

Corwin on the Constitution, volume one: The Foundations of American Constitutional and Political Thought, the Powers of Congress, and the President's Power of Removal
edited by Richard Loss
Cornell University Press, £22.75
ISBN 0 8014 1381 8

Edward Corwin must rank as one of the most distinguished and influential commentators on the United States Constitution. His commentary, *The Constitution and What it Means Today* was first published in 1920 and was constantly revised and expanded, even after his death. His writings appear prolifically in the footnotes of contemporary scholarly writings on aspects of constitutional power, and he was one of the academics most cited by Supreme Court justices in their opinions.

It was in the late 1930s and early 1940s that Corwin wrote much which has since become conventional wisdom. His analysis of the growth of presidential power with its emphasis on its discontinuity and the significance of crisis and personality, his judgment that by the 1930s the United States needed strong executive leadership, his careful dissection of the virtues of "dual federalism" and his espousal of "cooperative federalism", and his shrewd awareness that one hundred and fifty years of Supreme court decisions had left the Justices always two paths to tread, these have become the commonplaces of contemporary discussions. When reviewing his classic *The President: office and powers* (1940), a fellow constitutional expert described it as "an unmatched annotation of Article II of the Constitution"; certainly, at the time there had been no more thorough examination of the provisions covering the President's powers.

Corwin was not a lawyer but an historian by training. Woodrow Wilson, when president of Princeton University, invited him to join the teaching staff in 1905 as preceptor in history, politics, and economics; he was professor of politics from 1911 to 1918; he was professor of jurisprudence from 1918 to 1946, during which time he was for a while president of the American Political Science Association. His approach to the study of the Supreme court and the Constitution is consequently somewhat British in conception; he tended to focus on the philosophical roots of constitutional principles and on the practical facets of politics more than most American scholars.

He wrote copiously and widely, but most happily in the essay form. A selection of his articles is thus peculiarly apposite. It also reflects, I think, an American graduate tradition of guiding students back to the "great men" of a discipline. Treating Sir Kenneth Wheare or Sir Ivor Jennings in this way would not only be difficult but it would, in Britain, hardly meet a felt need. Yet Corwin's position in the study of the Constitution is so assured and his failure ever to produce a magnum opus on the subject so regretted, that collecting his major contributions to journals into three volumes makes American sense.

The first volume in this project concentrates on the philosophy of the Constitution and on aspects of the constitutional powers enjoyed by Congress and the President. Although the pieces here republished do not exhaust Corwin's ideas on these subjects, they illustrate the range of Corwin's interests, from notions of natural law which are still relevant to every jurisprudence course to the detailed issue of a President's removal power. But they also suggest an ambivalence, as is to be expected in a scholar who instinctively sympathized with notions of limited government yet realized that the genie of presidential power, for understandable and irreversible reasons, had escaped once Abraham Lincoln could announce without political rebuff that certain provisions of the Constitution might be violated in order to save the Union. Scholar of history, politics and jurisprudence, Corwin was fascinated by the interrelationship between the ideal and reality; this is what gives him his special appeal.

Yet they would have gained more had Richard Loss's editing been more assertive. Scrupulous in his corrections of Corwin's citational errors, Loss has made two substantive contributions. His introduction essentially summarizes Corwin's arguments and makes a few critical observations; the summaries are not models of expositional clarity and the critiques are inevitably brief. A final chapter challenges, in minutest detail, Corwin's historical understanding of Alexander Hamilton's conception of the President's removal power. This volume cries out for the editor to place each work firmly in the academic debate of the time and to trace its subsequent significance. Some, for example, have argued that Corwin's espousal of a "strong" presidency laid the liberal foundations for the imperial presidency which Arthur Schlesinger described in the 1970s; yet Corwin realized that the President's diplomatic powers were "dangerously great" more than forty years ago and suggested a much closer relationship between congressional leaders and presidential advisers. The Vietnam War would have horrified his sense of the proper relations between executive and legislative branches. But without discussion of such an issue, we cannot fully appreciate why Corwin remains a major figure in the academic study of the United States constitutional system.

Richard Hodder-Williams

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BOOKS

Shouting eureka

The Mind's Best Work
by D. N. Perkins
Harvard University Press, £12.95
ISBN 0 674 57627 0

Intuition: how we think and act
by Tony Bastick
Wiley, £21.00
ISBN 0 471 27992 7

Although these books both deal in some way with explaining insight or *intuition* (terms which Bastick points out are synonymous, at least as far as operational definitions are concerned), the two approaches are very different.

Perkins focuses on the superior insight supposedly involved in great creative endeavours, referring his argument to case histories of famous "makers" (his term) such as Darwin, Einstein, Mozart and Beethoven. The essential thesis is that there is no special creative talent involved, the creative activity being based on "everyday" mental processes. Even the classic "Archimedes in the bath" tale is seen simply as a (probably apocryphal) example of an extreme instance of a common activity.

Perkins begins by arguing that there may be no such thing as sudden insight or "emergence" of a solution after an incubation period, as it cannot be shown that several steps of reasoning have not previously occurred. The final step has the feeling and appearance of an "insight" because of the solution achieved. The argument is convincing (although the quoted studies showing introspective support are flawed, as subjects may be explaining their response, not its cause) and is developed to explain any creative endeavours as based on the use of everyday processes such as memory (remembering and recognition), selective attention ("noticing"), search for alternatives and use of schemata (behavioural plans). These may yield creative insight but the difference between this and more mundane behaviour is in terms of result not method.

Perkins accepts that some people are more creative than others but argues that this has nothing to do with creative ability per se. A minimum amount of ability in the field would be required but this also would not necessarily lead to creativity. Perkins pinpoints various personality characteristics that show some association with successful artists and scientists but, more importantly, emphasizes the role of *purpose*. Creative people direct these ordinary processes and tend to be more open to redirecting them during their work. Specialists will have schemata and memories specific to their field which will aid "noticing" and "remembering" in their creative work. He argues that these schemata (for example, a scientific paradigm or a school of painting) guide the creative proces and although constraining within certain limits, provide a framework for recognizing originality.

I found his argument, which was well and coherently developed throughout the book, reasonably convincing. However, the experiments (on active poets and artists) were less so. Although the methodologies were not reported in great detail, there appear to be several flaws.

For instance, in one experiment he shows that poets are judged to write better poems if they have had some training and, in another, that people were judged to produce "better" plot titles if they were asked to try to meet specific standards. These experiments simply show that judges make more favourable (subjective) judgments if their criteria are adopted. In addition, the "personal experiments" must be criticized on scientific grounds. These, although sometimes very entertaining and often illustrative of a wide variety of basic psychological findings, invite the reader to engage in a single subject experiment in which the expected response is very often cued by the preceding text. The "results" of these experiments are very likely, for a variety of psychological reasons, to lend an unwarranted amount of support to the authors' arguments.

However, although weak and possibly misleading experimentally, some of the arguments are good, the illustrations pleasing, the style light and often amusing and the anecdotes and case histories of a wide variety of famous "makers" often very interesting. The book is probably suitable for both a general readership and as additional reading for students taking a relevant course in the early stages of advanced study.

By contrast, Bastick's book is an extreme example of obscurantism, with much unnecessary use of jargon, and a lack of summaries of the crucial points of the argument in relevant places (for example, ends of sections and chapters). An example of the unrelenting complexity of the 390 pages is the utilization of a notation system for set analysis that he does not bother to explain. The reference list is impressively extensive but several factors prohibit the benefit of this wide reading from transferring to the reader. Apart from direct quotes, references to experimental research are often so cryptic that they reveal nothing. A more general problem is that the reference list is rather dated. Specifically, I found the discussion of work on deductive reasoning to be a decade out of date.

The book concerns a theory of intuitive thought. Though too complex to describe in any detail, it concerns "emotional sets" – "past experiences condition response to contiguous emotional states, producing emotional sets". Novel problems induce an emotional state that does not have a preconditional response to it. Any solution obtained will be immediately conditioned to the set as it is tension reducing (one trial learning"). An important factor in determining whether a solution will be obtained is redundancy – "Redundancy occurs when relationships between elements conditioned to an emotional set are enhanced by the relationships between other elements conditioned to the same emotional set, ie they share constituents". This defines redundancy as the extent of interconnexions between associations. The person's emotional state will change as a function of time ("drifting") but also as a reinforcement-based progress towards a solution – "as emotional sets are combined, the continuing resolution of tension through realizing conditioned responses to these sets gives subjective confidence that indicates the chain of combinations is leading to the formation of an emotional set that will bring acceptable reduction in tension and terminate the process". The more interconnexions (redundancy), the more likely it is that a solution will be found in earlier sets. The emotional element is very important – "appropriate feelings are evoked mainly subconsciously through empathy with the concrete objects characterizing a situation".

Thus progress towards a goal involves a movement through emotional sets, driven by tension reduction, the extent of movement needed being a function of redundancy. Individual differences are accounted for by some people being proficient at this method – "intuitive types utilize this redundant structure by evoking an initial anxiety in a low level of redundancy that they resolve by combining emotional sets at a higher level of redundancy to give the intuition, which is the response tendencies of the terminating emotional set". Incidentally, it is elsewhere pointed out that "evoked goal directed anxiety is commonly called curiosity".

Finally, the theory is claimed to be generally applicable beyond intuition – "other phenomena of thought and behaviour, rather than intuitive thought in particular, occur if the initiating non-ego threatening anxiety is not available in a relaxed ego state, allowing the combination of emotional sets at a high level of redundancy".

It is difficult to discern at whom the book is aimed. Presumably, postgraduates and workers in the field. Yet there is nothing in the book of interest but the theory, which is a facile mishmash of classical conditioning and psychodynamic theory. In the main it invokes outdated and superceded notions in psychology. Stripped of its obscurantism and its dated and superficial concepts, an attenuated form of the concept of redundancy is all that remains. The more complex and interconnected (redundant) one's ideas and experience are, the more likely one is to find ideas relevant to the solution of a novel problem. But this does not require nearly 400 pages to say. Perkins gives us a much more satisfying, informed, credible and entertaining account of what led Archimides to shout "Eureka".

Paul Pollard

Paul Pollard is a research fellow in psychology at Plymouth Polytechnic.

Linguistic puzzle

Learning to Write
by Gunther Kress
Routledge & Kegan Paul,
£10.95 and £5.95
ISBN 0 7100 9048 X and 9082 X

Learning to Read
by Hazel Francis
Allen & Unwin, £12.50 and £4.95
ISBN 0 04 372 037 4 and 038 2

One of the very few clearly established facts about children's progress in learning to read and to write is that it is closely related to their linguistic abilities. The more able a child is verbally the quicker he learns to cope with written language.

At first sight this seems to be rather a trite point. Why should one be surprised at a connexion between written and spoken language? But on further reflection the relationship seems a little less straightforward and a little more puzzling. After all the connexion cannot be a direct one: children often speak and understand words and sentences which they have persistent difficulty reading or writing.

The books by Gunther Kress and Hazel Francis have more than a similar title in common. Both are concerned with the link between reading and spoken language. Their answers too have much the same ring to them. Kress argues for a basic difference between speech and prose. His is one of the most versatile and intelligent books which I have read on the subject. His main theme is the difference between written and spoken language. Speech, he claims, is punctuated by events and writing by sentences and paragraphs.

According to Kress children on the whole have no clear idea of what a sentence is before they begin to read, and the language which they speak and hear does not consist of well formed fully rounded sentences either. Moreover, the language spoken by children reflects the nature of events which it describes rather closely. The cause is usually mentioned before the effect in their descriptions of causal sequences in the same way as cause can usually be seen to precede effect in nature. Not so in written sentences, or in fully formed spoken sentences, where effects are often described before their causes. Kress's speculation is that writing is more detached from the events with which it is dealing than spoken language, a theme which he develops in a chapter on linguistic and conceptual development. Here he makes a novel and important point, which is that when we look for the ways in which language affects children's intellectual development we ought to make a clear distinction between spoken and written language: the two, he argues, probably have quite different influences.

These are arresting claims, and it is a great pity that Kress offers virtually no evidence at all for them. His case rests on some selected examples of children's prose and a set of provocative arguments which are always cogent, but usually speculative. Most of his evidence for young children's lack of understanding of the sentence comes from illustrations which he gives of a tendency to use full stops rather sparsely – a tendency incidentally to which Kress succumbs now and then himself. "Here the second clause is more tightly integrated with the first because the subject noun-phrase of the second clause is not repeated, it has to be recovered from the context," is one (it should have been two) of his sentences.

Surely errors such as these need not mean a poor understanding of sentences: they could be the result of a muddle about full stops, which is quite another matter. This sort of problem is all the more worrying, given that there is now a great deal of good empirical data on children's awareness of sentences which Kress ignores completely. His disdain for empirical evidence is even more marked in his chapter on language and conceptual development, a vexed subject on which there is a great deal of research. Hardly any of it is ever mentioned, and the few people who are mentioned – Vygotsky, Labov, Bernstein – receive the most summary of treatments.

Yet the book is valuable and entirely original. It is ingenious also in its penetrating use of examples of children's writing. I hope that Kress will extend his analysis to spoken language too and that he will begin to take other people's work more seriously.

Hazel Francis's book does provide us with hard evidence about many of the issues raised by Kress. Her theme, too, is the relation between spoken and written language and the child's awareness of language. She bases her arguments on the results of a longitudinal study of ten children, and her main conclusion is that many children are held back in learning to read and to write because they do not have the chance to learn at home what reading and writing are about. Her observations, like those of Kress, are novel and acute, and her evidence is more systematic. But she too says very little about the large amount of existing evidence on children's awareness of language and its relation to learning to read and to write.

She also has a second theme which is about children's learning of spelling patterns and she spends quite a lot of time discussing one possibility which has received little attention until now. It is that children generalize from one word to another: they try out the spelling pattern which they have learned with one word and on other words as well. This is not a trite observation, if only because it has no place in current psychological theories about the learning of spelling. It deserves attention.

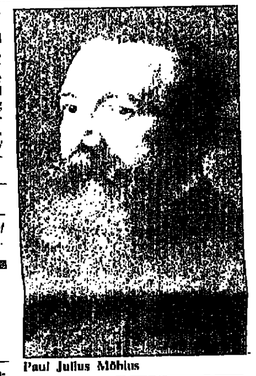
Hazel Francis's observations and arguments are always compelling, but with so few children involved her study had to be mainly a descriptive one. We still need a concentrated empirient attack on the interesting causal hypotheses which are suggested, but by no means established, by her and by Kress. Their lively books will help us on in that direction.

Peter Bryant

Peter Bryant is Watts Professor of psychology at the University of Oxford.

Displaced metaphor

A Möbius Strip: fin-de-siècle neuropsychiatry and Paul Möbius
by Francis Schiller
University of California Press, £12.00
ISBN 0 520 04467 3



Paul Julius Möbius

The Möbius strip is the single rectangle which, when one end is twisted a half-turn and then applied to the other end, forms a figure eight space, which has only one side and remains in one piece when split down the middle. The invention of a German mathematician, August Möbius (died 1868), it "is invoked here as the perfect symbol of the everlasting riddle of the mind-body relationship".

Möbius's grandson, Paul Julius (1853-1907), was a Leipzig physician preoccupied with the middle ground between psychiatry and neurology, both beginning to take their modern form about 1900. Francis Schiller – a professor of neurology in California – also opens up this middle ground, around the themes of Möbius's writings and (to non-mathematicians) the paradoxical properties of his grandfathers's topological space.

Schiller distills the nineteenth-century background of psychiatry, neurology and psychotherapy, an account of neurology's origins (and viability) as a distinct specialism, an argument to his colleagues to reflect on the mind-body question, and an assessment of P. J. Möbius. Although many readers will enjoy his light-handed linking of so many topics and observations in the history of neuropsychiatry, the problem comes when one starts to consider statements individually or the explanatory content of the linkages. It is apparent, for example, that the Möbius strip is not a metaphor, but a substitute for examining alternative mind-body philosophies in both medical theory and practice.

Again, it's neither conceptually nor historically illuminating to observe that Meynert (a Viennese brain specialist) distinguished a "primary self" (body and senses) and a "secondary self" (reason and ethics) which "*thus inspired* the 'id' and the 'superego' of his even more famous student, Sigmund Freud" (*my emphasis*). Nor is it necessary to condescend: "Today not many in the West may realize that Leipzig was one of the great cultural centres of Europe" now "half disappeared behind the iron curtain." If the still fine library of Leipzig's Karl Sudhoff Institute for the History of Medicine is not as fine as it once was, it might be remembered that many of its books are now in the United States!

We are presented with a depressing and familiar split between what medical practitioners expect from history and what self-consciously professional historians pursue. The same problem alienates scientists and historians of science. Schiller ranges over a fascinating nineteenth-century literature, but his comments are too loose to create confidence. Whenever evidential or philosophical rigour, historiographical subtlety, or reference to recent studies (for example, of Otto M. Marx or Hannah S. Decker) might be appropriate, the topic is already past. What are we to make of such judgments as "doing and observing, science and technology; it is another Möbius strip"; or, on quantitative concepts of nervous energy (much used in moralistic medical theorizing), "it is also an economic concept, if you wish . . ." It is precisely such topics which have transformed the history of medicine during the past decade, and it cannot simply be a matter of personal preference whether such topics are taken seriously. Schiller picks out for comment many points of profound interest, but he does not reflect on the historical and conceptual claims which he implies.

A book, then, which perpetuates a sad split between doctors and historians in medicine; each side will have its own reaction.

Roger Smith

Roger Smith is lecturer in the history of science at the University of Lancaster.

BOOKS

Timeless question

Three Concepts of Time
by Kenneth G. Denbigh
Springer. DM39.00
ISBN 3 540 10757 6

The central problem which Kenneth Denbigh addresses in his book is the relationship between the concepts of time as they appear in theoretical physics, in the evolutionary sciences such as biology and in our conscious awareness, a major question preoccupying professional philosophers. His aim is to present the problem in a form comprehensible to a graduate in one of the natural sciences, and he has been very successful in achieving it.

It may be more than a coincidence that the author is a chemist by training, because scarcely a year ago another stimulating work on the three times was published by Ilya Prigogine, a Nobel laureate in chemistry (*From Being to Becoming*, Freeman, San Francisco, 1980). Since two of these times belong to the realm of the physical sciences, one would naturally expect physicists and chemists to have something stimulating to say on the issue. Look at the examples set by, for example, Boltzmann, Einstein and Eddington. Yet, for almost half a century, physicists have been silent, apart from some science-fictional forays into describing the Universe's first three seconds and the odd hint about light signals going backwards in time.

Denbigh and Prigogine, in their different ways, have done something to restore the older tradition, thereby showing us that the physical sciences still have a culture, as well as a technology, to offer us. Really we should not think of these authors as chemists at all, as they are working in an area of physics, statistical physics – a discipline largely neglected for more glamorous areas, such as field theory and cosmology. If Ludwig Boltzmann were to start publishing again, his articles would probably appear in the *Journal of Chemical Physics*.

Denbigh is, I think, more successful that Prigogine in relating the three times. Prigogine gives us the impression that, once we have solved the central problem of relating thermodynamic to dynamical time, the way ahead to life, consciousness and history is clear. Denbigh, on the other hand, comes to grips with the problem of levels in scientific explanation. He shows that the biologist must use an evolutionary time, based on a changing degree of "organization" – which he carefully distinguishes from the physical concept of "order". He also shows how, with the intervention of "consciousness" – a term quite correctly reserved for *Homo sapiens* and distinguished from biological "sentience" – yet another concept of time enters.

As is inevitable in a study like this, we soon (chapter five) find ourselves confronted with the classical philosophical problems of determinism, causality and free will. We are rehearsed in those time-honoured statements of determinism from classical physics – the Spinozist statement that "Everything is written", and Laplace's infinitely wise Being with perfect knowledge of the initial positions and velocities of all particles in the Universe.

I must admit to some disappointment in Denbigh's discussion of these issues. Nineteenth-century physicists, at least, understood that causality and determinism are not merely distinct, but irreconcilable concepts. Since the "quantum revolution", however, they have become inextricably linked. It is a major problem for scientists and philosophers to redefine causality so that it is capable of describing the evolution of mutually interacting objects in an infinite universe. Such "objects" must include fields and particles, and also complex organizations of these "elementary" objects which are capable of exhibiting life and consciousness.

The first step along this breathtakingly hazardous road will be taken only when a proper distinction is again established between causality and determinism. Denbigh tries to make this first step, but his tools of analysis seem inadequate. He detaches "predictive determinism" (good) from "ontological determinism" (bad), only to shade over into "causality isn't court" (good), which he contrasts with the "principle of causality" (bad). At every turn he is hampered by an unsubstantiated idée fixe that science is not concerned with causes and effects.

Denbigh's low opinion of causality is a serious blemish, but not a damning criticism of his book. Causality still, fortunately, enjoys a high status in the biological, as opposed to the physical sciences. His breadth of view and understanding of the biological level forces him to bring causality in through the back door.

But the blemish does become serious in some of the more physically oriented sections of the book. For example, he gives far too high a status to time symmetric (or advanced-retarded) fields. These have their origin in attempts to describe interactions, such as the electromagnetic, without the use of fields. Only a tiny minority of physicists can stomach the consequences of this. Most of us still think that electromagnetic signals (in particular, light) from distant stars is there whether our eyes pick it up or not.

The same prejudice is apparent in his brief reference to Einstein, Podolsky and Rosen. These authors challenged the description of reality given by quantum theory on the grounds that it is at odds with the new causality concept provided by special relativity. This theory classifies events of the space-time continuum into either the past, present or future of a given event, and restricts causal interactions to those propagated inside the future light-cone. The interactions of quantum theory predict that this type of causality (known as Einstein locality) can in certain experimental conditions be violated. But no one has yet produced the experimental conditions required to see whether it is Einstein, Podolsky and Rosen or the quantum theorists who are correct. Many protagonists on both sides are waiting for the results of experiments which do so test. Yet, for Denbigh, the Einstein-Podolsky-Rosen effect is just a "paradox" which is easily explained with the help of advanced fields.

In chapters six, seven and eight, however, we leave the fairy-tale world of physics and move on to the "chemical" time of thermodynamics (which is, as I argued earlier, a rather more realistic version of "physical" time), and the higher time concepts required to describe, in turn, life and consciousness. This is where the author finds himself, despite his earlier prejudice, commenting favourably on attempts to put causality back in its rightful place. He sticks to the Boltzmann (or Grunbaum) position that entropy increase is a consequence of the initial and boundary conditions which all real thermodynamic systems satisfy. He recognizes that such conditions result from the interaction of all thermodynamic systems, even "isolated" ones, with their environment, including the walls of their containers.

In chapter six he begins to tackle what I believe is the central problem in relating the "chemist's" to the "physicist's" time by recognizing that "causality and contingency are not alternative principles between which philosophy has to choose, but are mutually consistent and supplementary principles which together describe fairly the nature of events". He gives two useful candidates for a principle of statistical causality, one due to Penrose and Percival and another due to Popper. These latter statements, indeed, could be thought of as a non-relativistic, but statistical, form of Einstein locality. But, in the end, Denbigh fails to appreciate, to the full, the usefulness of these statements, because his anti-causal prejudices take over again.

It is in chapters seven and eight that the strengths of the book come to the fore. We see first how biological systems respond to chance influences in their environment to proceed from a lower to a higher level of organization. We see how such an evolution can be fully incorporated in a physical world where, in accordance with the law of entropy increase, the degree of order within a thermodynamic system always decreases. Time "order" and "organization" are certainly not the same.

Finally, Denbigh provides some reasonably speculative, but none the less interesting, discussion of how our conscious awareness, which he regards as the supreme arbiter of the direction of time, may itself operate through a creative response to a sequence of chance stimuli. It is here that Denbigh tries to provide what he promises in his preface – a glimmer of light on the mind-body problem. His conclusion seems to be that life and individual consciousness both evolve in an undirectional sense, using processes derived from and consistent with the laws of physics, but requiring a different level of scientific explanation.

Such a description of consciousness seems to be fully consonant with that of Jacques Monod in *Chance and Necessity* that "man at last knows that he is alone in the unfeeling immensity of the universe, out of which he emerged only by chance". Although Denbigh gives no opinion of his own on this issue, the serious reader of this book should be helped in forming his or her own view.

Trevor Marshall

Trevor Marshall is lecturer in mathematics at the University of Manchester.

Veritable outrage

The Cosmic Serpent: a catastrophist view of Earth history
by Victor Clube and Bill Napier
Faber & Faber £12.50
ISBN 0 571 11816 X

Astronomers and historians are conservative people, and have an inherent preference for the mundane over the spectacular. "The principle of minimum astonishment" has been coined to describe this attitude. But is the world really like this? Do characteristics slowly evolve? Are we witnessing life forms, geological features and climates that change very slowly if at all; or do catastrophes occur, precipitating sudden extinctions of species, violent swings in temperature, magnetic field and rainfall, and possibly massive explosions causing considerable devastation?

Clube and Napier hate the mundane, enjoy being astonished and are truely catastrophists. They do not stop, however, at mild statements like "catastrophes *could* happen"; they insist that major catastrophes *have* occurred in historic times (that is, during the past 5000 years) and that the cause is the explosive energy released by comets hitting the Earth. The results of their deliberations are packed into an eminently readable and well illustrated book that provides an account which is intriguing, fascinating and in agreement with the authors' prologue "contains something to outrage everyone".

As a member of the conservative astronomer class I found being outraged very stimulating. Astronomers are too complacent. In no way can they be sure that they have arrived at a final and accurate picture of the workings of the Universe. Too often do they acquiesce to a consensus of opinion that as often as not seems to be based on little more than historical inertia.

The first half of the book deals with the astronomical problems of producing comets and asteroids, how the orbits of these minor members of the solar system can be changed, and more specifically what happens when either a comet or an asteroid hits the Earth. And hit the Earth they definitely do; we can see the missiles in the sky and the holes in the ground. The energy released is enormous, mainly due to the fact that the collision takes place at a typical speed of 80,000 miles per hour. An asteroid or comet of one kilometre in diameter colliding with the Earth releases three million megatons of energy. Remember that the Hiroshima explosion was a mere fiftieth of a megaton and that the eruption of the volcano Krikaton released 50 megatons.

Such collisions are common on an astronomical timescale. Within the past 500 million years there have been about 50 collisions of energy more than seven million megatons, ten of more than 100 million megatons and one or two with energies in the few thousand million megaton range. All the gory details of the effects these explosions might have had on atmospheric temperature and winds, on fauna and flora and on ozone and the amounts of sunlight that can reach the surface of our planet are carefully reviewed. Wiping out the dinosaurs is no problem; Noah's flood is a pushover.

Obviously the smaller the energy release the more common the event. A 12 megaton explosive impact occurred in the Tunguska region of Siberia as recently as A.D. 1908. The authors suggest that other major catastrophes occurred around 1369 B.C. and 2500 B.C. and that these acted as landmarks in historical development. They go even further and propose that our ancestors recognized that comets were the cause of these catastrophes and that mythological dragons and serpents were pictorial descriptions of comets in the sky. For comets to be transferred into mythological gods the authors propose that our Chaldean and Mediterranean ancestors recognized the fact that some comets return to the vicinity of the Earth and the Sun periodically. Edmond Halley was thus pipped at the post by thousands of years.

Now it is my turn to be outraged. I believe that the differing geometry of each apparition and the varying period between apparitions makes this highly unlikely. So I do not immediately embrace their new explanation for the building of megalithic temples or the unusual calendars of the ancient civilizations of Egypt and Central America. But Clube and Napier have sown seeds of doubt in my mind. I found their ideas extremely stimulating, often exciting, sometimes outrageous but never, never boring.

David Hughes

David Hughes is lecturer in astronomy and physics at the University of Sheffield.

A selection and analysis of 37 key papers in the history of radio astronomy up to 1954, charting the evolution of the field from a minor aspect of ionospheric radio physics into a major force in astronomy, has been published as *Classics in Radio Astronomy* by D. Reidel at Dfl 140. W. T. Sullivan III provides the extensive historical and scientific commentary that introduces each section and paper.

Militant liberal

Charles Babbage: pioneer of the computer
by Anthony Hyman
Oxford University Press. £12.50
ISBN 0 19 858170 X

The picture of Charles Babbage as an eccentric nineteenth-century inventor, single-mindedly and foolishly attempting to build a giant automatic digital computer over a hundred years before technological developments were to make such an endeavour feasible, has been perpetuated in many books and articles. Indeed, it forms an almost obligatory passage in the first chapter of any introductory textbook on computing. More extensive accounts of the history of computing have made the inadequacy of this picture clear, but we have had to wait until now for an account which really does justice to the life and achievements of a truly fascinating and brilliant man.

Charles Babbage was born in 1791, son of a banker recently arrived in London from Devon. As a schoolboy Babbage developed an early interest in mathematics, mechanical contrivances and scientific investigations. His mathematical knowledge, largely self-taught, turned out to exceed that of his university tutors in Cambridge, where in a very short time he and a small group of fellow undergraduates formed the Analytical Society and set out, eventually with great success, to reform mathematics at Cambridge, and thus in Britain. This was to be but the first of the many societies that he helped to form (for example, the London Statistical Society, the British Association for the Advancement of Science, and what became the Royal Astronomical Society) and of the reform campaigns he was to wage.

So much is well known. What Anthony Hyman has done is to uncover much new evidence, and provide a much fuller and clearer picture than has been available before, of how closely these aspects of Babbage's life were linked with his activities as a militant liberal, and his close connexions with leading European republicans, starting with Lucien Bonaparte, a younger brother of Napoleon.

Babbage's family life, so little mentioned in his own autobiographical *Passages from the Life of a Philosopher*, is also revealed in much greater detail than before. His happy but tragically short-lived marriage ended in 1827, a year in which his wife and two of his children died. In the decades that followed Babbage immersed himself in his extraordinary range of activities, including both scientific reform and conventional electoral campaigns, a detailed study of industrial processes and economics, and of course his mathematical engines.

The story of his work on a difference engine for calculating and printing mathematical tables, and on the analytical engine, a general-purpose machine embodying virtually all the fundamental concepts of the modern digital computer, has often been told. This account nevertheless provides new insights into what Babbage was attempting, and into the extent and the significance of his achievements. Tantalizing glimpses are given of many little-known aspects of Babbage's various machines, for in this book Hyman concentrates on providing a rounded picture of Babbage's life and work, rather than on the technical details of the machines, well-qualified though he would be to do so. The book does, however, contain reproductions of a well-chosen selection of Babbage's original engineering drawings, and writings on his calculating machines.

What emerges most clearly from this account is not a picture of an eccentric inventor pursuing impractical goals. Rather it is one of an amazingly rounded and talented individual, as passionately and actively concerned with the impact that science and technology could have on the nation's industry and economy as he was with his vision, a century ahead of its time, of the now ubiquitous computer. It is a fascinating story, and is well told in this carefully researched, yet highly readable, biography.

In particular, it is a story that should lead us to realize belatedly just how much Britain lost, in both the last and the present centuries, not so much through the Government's decision to cease supporting Babbage's calculating machine developments as from its failure to undertake the scientific, industrial and political reforms that he and his colleagues were advocating.

Brian Randell

Brian Randell is professor of computing science at the University of Newcastle upon Tyne.

Volume III of *Norbert Wiener: collected works with commentaries*, edited by P. Masani, has been published by MIT Press at £35. This volume reprints Wiener's papers on the Hopf-Wiener integral equations, prediction and filtering, quantum mechanics and relativity, and other miscellaneous mathematical papers. Commentaries written by contemporary authorities trace both the genesis of the papers and their influence on subsequent work.

NOTICE BOARD

Noticeboard is compiled by Patricia Santinelli and Mila Goldie

Appointments

Universities

Heriot-Watt
Mr J. B. Moss, principal of Esk Valley College Dalkeith and Mr A. Inglis, principal of Telford College of Further Education, Edinburgh, are to be members of the General Convocation of the university.
Mr Grant-Wood, headmaster of Enfield High School, Edinburgh, has been re-appointed to serve on the General Convocation for a further three years and three other headmasters and two headmistresses have been appointed for the same period: Dr Patricia J. G. Hodgkinson (St Margaret's School, Edinburgh); Miss Eileen Murdoch (St Augustine's High School, Edinburgh); Mr A. R. Nixon (Annandale Academy); Mr T. J. O'Malley (St Ninian's High School, Dalkeith); and Mr Roger W. Young (George Watson's College, Edinburgh).
Professor John C. Gilbert, professor of pharmacology at Heriot-Watt University, Edinburgh, has been appointed head of the department of pharmacy, in succession to Professor A. R. Rogers, currently vice-principal.
Professor John Roche, professor of design and manufacture, has been appointed head of the department of mechanical engineering, following the retirement of Professor Tom Baines.
Dr Philip J. William, senior lecturer in the department of economics and currently dean of the faculty of economics and social studies, has been appointed head of department of economics, in succession to Professor Donald I. Mackay, who becomes a professorial fellow in the Esmée Fairbairn Research Centre at the university.
Mr T. Kenneth Crichton has been appointed director of Unilink, the university-industry liaison division at Heriot-Watt. He succeeds Mr Ian G. Dalton, who had held the post concurrently with his appointment as director of computer application services (CAS) at the university. Mr Dalton continues in this capacity and as one of the university directors of Integrated Micro Applications Ltd.

Colleges and Polytechnics

Edinburgh College of Art
David A. R. Mickie has been appointed head of the school of drawing and painting, in succession to Mr Robin Philipson. Mr Mickie has been appointed deputy head of the school of drawing and painting.

Preston Polytechnic
Stanley Henig head of the school of social studies becomes professor of European Politics.

Hammersmith and West London College
The new principal is to be Mr Roger Carus, who is present principal of Havering Technical College, Romford.

General

Lord Crowbrook, Professor Ronald Edwards and Professor John Simpson are the new members of the Natural Environment Research Council. Reappointed for three years is Professor William Stewart. Mr Hugh Fish and Professor Bernard Lauke are reappointed for two years.
Dr Donald Bell, currently head of Branch 2 of the Department of Industry's Electronic Applications Division, has been appointed to be the next director of the National Engineering Laboratory, East Kilbride. He will succeed the present director, Dr Paul Freeman, at the beginning of the next year.
Professor Andrien Albert, Dr John William Gurrad and Professor Donald Watson Matthieson have been elected as honorary members of the Pharmaceutical Society.

Last minute guidance from the retiring president of Portsmouth Polytechnic, Dr William Davey CBE (left) who handed over the reins last week to Dr Harry Law, previously director of Preston Polytechnic.

Dr Davey, aged 65, is retiring after 22 years in the post during which time full-time students have risen dramatically from just under 1,000 to 6,000 full-time and the number of staff has grown from 170 to 700.

Grants

Brunel
Economics – M. Buxton – £105,000 from DHSS for a study of the costs and benefits of cardiac transplantation schemes at Papworth and Harefield.
Electrical engineering – Professor J. Alexander £181,668 from the SERC to support the digital systems laboratory. Professor G. Musgrave – £123,500 from the SERC to support an MSc Course Director, Department of Mechanical Engineering, Queen Mary College, Mile End Road, London E1 4NS.
Course in integrated circuits.
Biochemistry – Professor T. F. Slater – £241,250 and £135,674 from the Cancer Research Association for a cervical cancer research programme. Dr D. McIlrien – £24,086 from Bristol-Myers Co, New York to study the biotransformation of platinum anti-tumour drugs and the biological activity of the transformation products.
Government – Professor M. Kogan – £145,089 from the DES for a study of school governing bodies. Professor M. Kogan – £111,846 from the DES to study the expectations of higher education.
Metallurgy – Professor C. Bodsworth and Dr D. Gawne – £58,300 from the SERC to work on the direct reduction of iron ores in a rotary kiln.
Non-metallic materials – Professor M. Bevis and Dr J. Bowman – £21,300 from the SERC to study the fatigue behaviour of joints in thermoplastic pipeline systems. Professor M. Bevis – £25,000 from the SERC to develop techniques for the production of void free fibre reinforced thermoplastic mouldings intended for demanding uses.
Biology – Professor R. Terry and Mr K. Hudson – £51,748 from the Wellcome Trust for a comparison of VAT repertoires of recent trypanosoma gambiense (= like) isolates from West Africa and the effect on the VAT repertoire of transmission through various species of the tse tse fly.

UMIST
Instrumentation and Analytical Science – Dr B. E. Jones – £11,450 from SERC for research into passive transponders in medical applications.
Building – A. W. Howarth and Professor J. Burberry – £35,000 from SERC for development and application of multivaer gas analysis of ventilation and internal air movement.
Chemical Engineering – G. M. Hitch and Dr F. Mavituna – £100,336 from the SERC and Albright and Wilson for investigation into the production of fine chemicals by immobilized plant cells.
Biochemistry – Dr R. W. Davis – £90,812 from the SERC for research into detailed analysis of the components of DNA protein interactions, underlying phage lambda integration.
Chemistry – Dr M Barber and Dr R. D. Sedgwick – £10,250 from the SERC for further studies of fast atom bombardment mass spectrometry.
Civil engineering – P. A. Thompson and J. G. Perry – £73,920 from the SLRC for research into the application of risk analysis to the management of engineering construction.
Biochemistry – Dr T. K. Sundaram – £30,647 from the SERC for research into the isolation of thermophilic lipolytic microorganisms and study of their lipases.

Warwick
Centre for Research in Industry, Business and Administration – Professor J. R. Perun and Mr. J. A. Stillwell £78,150 from the Department of Health and Social Security, for research on performance indicators for the use of diagnostic procedures.
Engineering – Professor S. K. Bhattacharyya – £12,000 from BL Cars Limited, for research on advanced production techniques; £63,520 (supplement) from the SERC for research on integrated graduate development for BL Cars Limited, Lucas Industries Limited, and Rolls Royce Limited; Dr. W. K. Bowen – £11,116 from the Daresbury Laboratory of the SERC for the third X-ray topography camera.
Environmental Sciences – Professor D. P. Kelly – £33,065 (supplement) from Biogen, for research on bacterial leaching of minerals.
Psychology – Professor J. Annett – £25,963 from the MSC for minimizing skill retention and transfer on enhanced YOP and high quality schemes.

Forthcoming Events

"Is Science Selling its Story?" Mr William Shelton, MP, Parliamentary Under-Secretary of State with special responsibility for science, will be delivering a public lecture at 4.00 pm on Monday September 27, to be held in the main lecture theatre of the University of Kent Physics Laboratory. Admission free.

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"An introduction to the Energy Method", a one-day course on thermal and chemical plant analysis and optimisation using the energy method, will be held at Queen Mary College premises on September 21, 1982 This repeat running of the course has been organized in response to many inquiries following its successful running in January, 1982. It has been granted approved status by the Institutum of Chemical Engineers. The course is intended for those concerned with the operation or design of thermal or chemical plant. Also, those concerned with energy conservation and energy management. Further information and registration forms from: Dr T. J. Kotas, Energy Course Director, Department of Mechanical Engineering, Queen Mary College, Mile End Road, London E1 4NS.

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The University of Newcastle-upon-Tyne will be host to the Nutrition Society of the U.K. at a symposium September 21 to 23. The symposium, "Nutrient-hormone interactions in animal production is organized on behalf of the Nutrition Society by Professor Dawn Armstrong and Dr Ted Wenham of the department of agricultural biochemistry and nutrition. Professor Eric Blair, head of the department of physiology, Newcastle University, will give an opening paper on hormones and metabolism. Other speakers include, Dr David Sanders and Dr Christopher Robinson of the department of physiology and Dr Weekes of the department of agricultural biochemistry and nutrition.

Correction

A chair awarded to Dr Ian McConnell at the University of Edinburgh was one of veterinary pathology and not just pathology as reported in *The THES*, August 27.

In the same issue grants listed under Edinburgh, should have appeared under Heriot-Watt University.

Open University programmes September 11 to September 17

Saturday September 11

BBC1
6.25* Contemporary Issues in Education. A Many Splendid Thing? – Part 2 (E208; prog 15).
6.50 Curriculum Design and Development. A Fish in a Tank (E203; prog 14).
7.15 Philosophical Problems. Have a heart. Use your head. Part 1 (A313; prog 10)
7.40 Modern Art from 1848 to the Present Styles and Social Implications. Art as Performance (A351; prog 10).
8.05* Ethnic Minorities and Community Relations. Punjab to Britain: 2 – A long road to Chatham (E354; prog 10).
8.30 Popular Culture. The People's Game (U203, prog 16.

BBC2
6.25* The Nineteenth Century Novel and its Legacy. "Heart of Darkness" and Modernism (A312; prog 14).
6.50 Management and the School. Shorefields School: Facing Change (E323, prog 8).
7.15* Introduction to Pure Mathematics. The Double Integral (M203; prog 28).
7.40 Twentieth Century Poetry. Miroslav Holub (A305; prog 15).
8.05 Materials under stress. The Turbine Blade (1): Different Blade, Different Alloy, Different Process (T293; prog 13).
8.30 Numerical Computation. Simulation Models (M351; prog 8).
8.55 Cognitive Development: Language and Thinking from Birth to Adolescence. Design for Science Teaching (E362; prog 8).
9.20 Conflict in the Family. Juvenile Court – 2 (P333; prog 4).
9.45 Social Work, Community work and Society. House of Refuge (D226; prog 9).
10.10 The Earth: Structure, Composition and Evolution. Geochemical Mapping (S237; prog 17
10.35* The Enlightenment. The Paris Pantheon (A204, prog 14).
11.00* Mathematical Models and Methods Tops and Gyropoes (MST204; prog 20).
11.25 Understanding Space and Time. Vanished Brilliance – (The Universe Yesterday) (S354; prog 15).
11.50 Social Psychology Members of the Jury (D305; prog 14).
12.15* Computing and Computers Computing: Critical Path Analysis (M252; prog 12).
12.40 Quantum Theory and Atomic Structure. Identical Particles (SM351; prog 10).
13.05 Seventeenth Century England. A Changing Culture. 1618-1689. Orpheus Britannicus (A201; prog 16).
13.55 An Introduction to Sociology. Comparing Trades Unions – 1 (D207; prog 9).
14.20* Language Development. Subject Talk (PE232, prog 9).
14.45* Instrumentation, Display and Recording (T291; prog 10).

RADIO 3 (VHF)
5.55* Genetics. Genetic Counselling (S299; prog 14).
6.15 Risk Artists and Scientific Risk Takers (D201; prog 10).
6.35* Decision Making in Britain. Britain and the Third World (D303; prog 28).
7.35 Maths Foundation Course. Sampling (M101, prog 14).
23.20 Open Forum – 39 (prog 29).
23.40* Research Methods in Education and the Social Sciences. Social Research and the Citizen (ED304, prog 13).
24.00 The Development of Instruments and Their Applications (A304; prog 15).
00.20* Thought and Reality: Central Themes in Wittgenstein's Philosophy. The Self, the Will and the Ethical (A402; prog 8).

Sunday September 12

BBC1
6.25 English Urban History 1000-1700. The Early Industrial Town (A322, prog 8).
6.50 Conflict and Stability in the Development of Modern Europe 1789-1970. Images of Protest (A369; prog 8).
7.15 Curriculum in Action: An approach to evaluation. What do we intend to do now? (E234, prog 7).
7.40 Fundamentals of Human Geography. Redlining the City (D204; prog 15).
8.05 Control Engineering. Non-Linearities (T301; prog 8).
8.30 Decision Making in Britain. Oil: The North Sea Bonanza (D203; prog 15).

BBC2
6.25* Biology, Brain and Behaviour. The Social Primate: Good Timing (SD280; prog 14).
6.50 Systems Performance: Human Factors and Systems (T552). Planning for Disaster (TD342; prog 15).
7.15 Ecology. Grass and Cereal Ecosystems (S323; prog 15).
7.40 The Nature of Chemistry. Fast Reactor Fuel Reprocessing (S304; prog 28).
8.05 Mechanics and Applied Calculus Rotating Frames II – Applications (MST283; prog 14).
8.30* Science Foundation Course. From Perihelion to Relativity (S101; prog 27).
8.55 Social Sciences Foundation Course. Psychiatry and Insanity (D101; prog 29).
9.20 Maths Foundation Course. Mathematical Induction (M101; prog 3).
9.45 Modelling Mathematics. First Order Fishes (TM281, prog 8).
10.10* Engineering and Mathematics: Solitals. Vibration (T282; prog 7).
10.35 Telecommunication Systems Teaching by Television (T331; prog 14).
11.00 Work Physics and Function The Plant Cell Wall (E302; prog 29).
11.25 Open File Forum 12 – "Preparing for Exams" (prog 12).
11.50 Photochemistry: Light, Chemical Change and Life Photosynthesis, the First Nanosecond (S341; prog 10).
12.15 Complex Analysis Analytic Functions (M352; prog 9).
12.40 Principles of Chemical Processes. Polymerisation (ST294; prog 15).
13.05 Surface and Sedimentary Processes Case studies: Surface Science. Tunnels and Tunnelling (S335; prog 11).
13.30* Evolution Sexual Selection (S361; prog 14).

RADIO 3 (VHF)
6.55 Education and the Urban Environment New York Mini-Schools (E301; prog 8).
6.15 Modern Art from 1848 to the Present Styles and Social Implications The Impact of Abstract Expressionism (A351; prog 15).
6.35* Twentieth Century Poetry. Philip Larkin (A306, prog 14).
6.55* Personality and Learning. Case-study of a Slow Learner (E301; prog 28).
7.35 Physiology of Cells and Organisms. Decomposition Sickness (S321; prog 7).
23.20 Contemporary Issues in Education. Education Bulletin (T) (E208; prog 22).
23.40* Greece 476-336 BC. Sculpture: Colour and Texture (A252; prog 14).
24.00 An Ageing Population. Home Design (P252; prog 2).
00.20 The Nineteenth Century Novel and its Legacy Feminist Criticism (A312; prog 15).
00.40 Art in Italy 1460-1560. The Stalwart Pose (A352, prog 10).

RADIO 4 (VHF)
6.55* Ethnic Minorities and Community Relations. Racial Attack (E354; prog 7).
7.15* Social Work, Community Work and Society From Widow to Woman? (DE206; prog 10).
7.35 The Enlightenment. Laugier and French Architectural Theory (A204; prog 29)

Monday September 13

BBC1
6.40 Rome The Augustan Age Herod and Judaea (A293; prog 8).
7.05 Mathematical Models and Methods. Halley's Comet (MST284; prog 27).
7.30* Politics, People and Administration The Ombudsman (D336; prog 7).

BBC2
6.40* Maths Foundation Course Mathematical Induction (M101; prog 5)
7.05* Materials under Stress The Turbine Blade (1). Different Blade, Different Alloy, Different Process (T351; prog 13).
7.30* Computer Based Information Systems. Data Dictionaries (M3552; prog 7).
17.10* Contemporary Issues in Education. A Many Splendid Thing? Part 2 (E300; prog 15).

RADIO 3 (VHF)
5.55 Partial Differential Equations of applied Mathematics Shallow Water Waves (M321; prog 7).
6.15* Special Needs in Education "Suffer the Children" (E341; prog 7).
6.35* World Publish Voices from the Periphery (D213; prog 10).
23.20 Arts Foundation Course Mill the Reformer (A101; prog 28).
23.40* Physiology of Cells and Organisms. Decompression Sickness (S321; prog 7).
24.00 Oceanography. Upwelling. El Nino (S334, prog 10).
00.20* Political Economy and Taxation. Returning Personal Taxation (D323; prog 7).

RADIO 4 (VHF)
23.20 Conflict and Stability in the Development of Modern Europe 1789-1970. Cold War Nuclear Technology and the Superpowers (A369; prog 15)
23.40 Mass Communication and Society. James Bond Occupation and Ideology (TH; 355; prog 16).
24.00 Social Psychology. Members of the Jury (1) (D305, prog 14).
24.00 Economics and Education Policy. Education in Poland (ED322; prog 8).
00.20 Science and Belief from Darwin to Einstein A Marxist View (A281; prog 14).
00.40* The Enlightenment Laugier and French Architectural Theory (A204; prog 29).

RADIO 4 (VHF)
23.20* Modern Art from 1848 to the present Styles and Social Implications The Impact of Abstract Expressionism (A351; prog 15).
23.50 Personality and Learning. Thindale Park School (P201, prog 29).

Tuesday September 14

BBC1
6.40 Personality and Learning Diagnosis of learning problems (E301; prog 15)
7.05 Cognitive Psychology Conversing with Computers (D301, prog 15).
7.30 Reading Development Resource Development (PE231; prog 8).

BBC2
6.40 Systems Organising: The management of complexity. LATA (2) Negotiations in Tel Aviv (T243; prog 10).
7.05 Science Foundation Course. Field Geology Arran (S101, prog 29).
7.30 The Earth's Physical Resources Water Resources: A Case Study (S206; prog 10)
17.10* Curriculum Design and Development A Fish in a Tank (E203, prog 14).

BBC2
6.40 Organic Chemistry Synthesis in the Laboratory (S306; prog 14)
7.05* Social Sciences Foundation Course Psychiatry and Insanity (D102; prog 29).
7.30* Surface and Sedimentary Processes Case studies Tectonics in Deserts and Tunnelling (S335; prog 11).
17.10* English Urban History 1500-1700. The Early Industrial Town (A322; prog 8)

RADIO 3 (VHF)
5.55 Science Chemistry Synthesis in the Laboratory (S306; prog 14)
7.05* Social Sciences Foundation Course Psychiatry and Insanity (D102; prog 29).
7.30* Surface and Sedimentary Processes Case studies Tectonics in Deserts and Tunnelling (S335; prog 11).
17.10* English Urban History 1500-1700. The Early Industrial Town (A322; prog 8)

RADIO 3 (VHF)
5.55 Science The Enlightenment Laugier and French Architectural Theory (A204; prog 29).
6.15 Art and Environment. Making "The Nightcleaners" (TAD292; prog 14).
23.20 Science Foundation Course. The Geology of the Peak District (S101; prog 14.
24.00* The 19th Century Novel and its Legacy Feminist Criticism (A312; prog 15).
00.20 Ethnic Minorities and Community Relations. Punjab to Britain: 2 – A long road to Chatham (E354; prog 10).
00.40 Popular Culture. The People's Game (U203, prog 16.

RADIO 4 (VHF)
23.20 Science Foundation Course. The Geology of the Peak District (S101; prog 14.
24.00* The 19th Century Novel and its Legacy Feminist Criticism (A312; prog 15).
00.20 Ethnic Minorities and Community Relations. Punjab to Britain: 2 – A long road to Chatham (E354; prog 10).
00.40 Popular Culture. The People's Game (U203, prog 16.

Wednesday September 15

BBC1
6.40 Photochemistry: Light, Chemical Change and Life Modelling Photosynthesis (S341, prog 11).
7.05 Interacting Physics. Lasers (S271, prog 15).
7.30 Images and Information Seeing with Sound (ST291; prog 15)

BBC2
6.40 Introduction to pure mathematics Knots (M203; prog 28)
7.05 Arts Foundation Course. Matters of Interpretation (A101, prog 28)
7.30 An Introduction to Calculus The Directional Derivative (MST283; prog 15).
12.30 Contemporary Issues in Education. A Second Chance (E208, prog 16)
12.55 Health Choices: Can We Saw (P023; prog 5)
17.10* Philosophical Problems Have a Heart. Use your Head. Part 1 (A313, prog 10)

RADIO 3 (VHF)
5.55* Environmental Hydraulic Modelling (S23-), prog 12)
6.15* Conflict and Stability in the Development of Modern Europe 1789-1970. Cold War Nuclear Technology and the Superpowers (A369; prog 15)
17.20 Weekend Outlook
RADIO 4 (VHF)
5.55* Economics and Education Policy. Education in Poland (ED322; prog 8)
6.15* Art and the Population Home Design (P252, prog 2)
6.35* Art in Italy 1460-1560. The Stalwart Pose (A352, prog 10).
23.20 The Earth's Physical Resources. The Energy Budget (S206, prog 4).
23.40* Education and the Urban Environment New York Mini-Schools (E301, prog 8).
24.00* Great Britain 1750-1950 Science and historiography. Gathering Oral Evidence (A301, prog 15).
*repeated programmes

Thursday September 16

BBC1
6.40* Social Psychology. Members of the Jury (D305; prog 14).
7.05* Systems Performance: Human Factors and Systems Failure. Planning for Disaster (TD352, prog 12).
7.30 Materials Processing What do you think of it so far? (T352; prog 14).

BBC2
6.40 Organic Chemistry Synthesis in the Laboratory (S306; prog 14)
7.05* Social Sciences Foundation Course Psychiatry and Insanity (D102; prog 29).
7.30* Surface and Sedimentary Processes Case studies Tectonics in Deserts and Tunnelling (S335; prog 11).
17.10* English Urban History 1500-1700. The Early Industrial Town (A322; prog 8)

RADIO 3 (VHF)
5.55 Science The Enlightenment Laugier and French Architectural Theory (A204; prog 29).
6.15 Art and Environment. Making "The Nightcleaners" (TAD292; prog 14).
23.20 Science Foundation Course. The Geology of the Peak District (S101; prog 14.
24.00* The 19th Century Novel and its Legacy Feminist Criticism (A312; prog 15).
00.20 Ethnic Minorities and Community Relations. Punjab to Britain: 2 – A long road to Chatham (E354; prog 10).
00.40 Popular Culture. The People's Game (U203, prog 16.

RADIO 4 (VHF)
23.20 Science Foundation Course. The Geology of the Peak District (S101; prog 14.
24.00* The 19th Century Novel and its Legacy Feminist Criticism (A312; prog 15).
00.20 Ethnic Minorities and Community Relations. Punjab to Britain: 2 – A long road to Chatham (E354; prog 10).
00.40 Popular Culture. The People's Game (U203, prog 16.

Friday September 17

BBC1
6.40* Control Engineering Non-Linearities (T301; prog 8).
7.05* Fundamentals of Human Geography. Redlining the City (D204; prog 15).
7.30* Modern Art from 1848 to the Present. Styles and Social Implications Art as Performance (A351; prog 10).

BBC2
6.40 Biology, Form and Function The Plant Cell Wall (E302; prog 29).
7.05 Biology, Brain and Behaviour. The Social Primate: Good Timing (SD280; prog 14).
7.30 An Introduction to Calculus The Directional Derivative (MST283; prog 15).
12.30 Contemporary Issues in Education. A Second Chance (E208, prog 16)
12.55 Health Choices: Can We Saw (P023; prog 5)
17.10* Philosophical Problems Have a Heart. Use your Head. Part 1 (A313, prog 10)

RADIO 3 (VHF)
5.55* Environmental Hydraulic Modelling (S23-), prog 12)
6.15* Conflict and Stability in the Development of Modern Europe 1789-1970. Cold War Nuclear Technology and the Superpowers (A369; prog 15)
17.20 Weekend Outlook
RADIO 4 (VHF)
5.55* Economics and Education Policy. Education in Poland (ED322; prog 8)
6.15* Art and the Population Home Design (P252, prog 2)
6.35* Art in Italy 1460-1560. The Stalwart Pose (A352, prog 10).
23.20 The Earth's Physical Resources. The Energy Budget (S206, prog 4).
23.40* Education and the Urban Environment New York Mini-Schools (E301, prog 8).
24.00* Great Britain 1750-1950 Science and historiography. Gathering Oral Evidence (A301, prog 15).
*repeated programmes

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Universities

THE PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY
DEPARTMENT OF ACCOUNTANCY AND BUSINESS STUDIES

PROFESSOR AND HEAD OF DEPARTMENT

Applications are invited from suitably qualified persons for the post of Professor, Department of Accountancy and Business Studies. The Professor will also be appointed as the Head of Department under current rules.

Applicants should have qualifications, experience and personal qualities demonstrating a capacity to give effective overall leadership in the academic and administrative work of the Department. Teaching experience at a degree level is essential. Applicants should also have demonstrated productivity in the areas of research or professional development work. Industrial or commercial experience, although not essential, is desirable. Preference will be given to applicants with special experience and ability in accountancy or business management.

The Department of Accountancy and Business Studies offers bachelor degrees in accountancy, business management and commercial computing. The current student body numbers over 300 with a full-time academic staff establishment of 22. Fully equipped laboratories and computer facilities are available. The University also has a central computer system.

Salary: K21,780 (KI=Stg. 0.7429 approx.)

Initial contract period is for 3 years. Other benefits include a gratuity of 24% taxed at 2%, appointment and repatriation fares for the staff member and family after 18 months or service, sailing-in and out allowances, six weeks paid leave per year, education fares and assistance towards school fees, free housing. Salary continuation and medical benefit schemes are available.

Detailed applications (two copies) with curriculum vitae, together with the names and addresses of three referees, should be received by The Registrar, Papuai New Guinea University of Technology, P.O. Box 793, Lae, Papua New Guinea, by 22 October, 1982.

Applicants resident in the United Kingdom should also send a copy to the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF.

THE OPEN UNIVERSITY
FACULTY OF SCIENCE

SECOND CHAIR IN BIOLOGY

Applications are invited for a newly established Chair in Biology at the Open University. The Headship of the Department will rotate between the new appointment and the holder of the Foundation Chair, Professor Steven Rose. Applications will be considered from candidates of proven excellence in teaching and research in any area of biology. However, the University is seeking to make an appointment in an area which will complement the existing skills and interests of the Department and would therefore particularly welcome applications from persons specialising in vertebrate physiology with an interest in environmental, reproductive or developmental biology.

The successful candidate will be expected to take up the appointment at the earliest convenient date. Salary will be within the normal UGC approved Professorial range plus USS benefits.

Further particulars may be obtained from the Secretary (A45/43), The Open University, Walton Hall, Milton Keynes, MK7 6AA. Telephone Milton Keynes (0908) 653710; there is a 24 hour answering service on 653068.

Closing date for applications: 15th October.

GRIFFITH UNIVERSITY
Brisbane, 4111, Australia

VICE-CHANCELLOR

The University is seeking a Vice-Chancellor to succeed Emeritus Professor F.J. Willett, D.S.C., who has served as foundation Vice-Chancellor since 1971. It is hoped that the appointee will take up the position by July, 1983.

The Selection Committee would be pleased to hear from people wishing to be candidates for the position, or who wish to suggest names for consideration. Please write, in confidence, to the Secretary, Vice-Chancellorial Selection Committee, who will supply information on the University, and the means of providing material to support candidature, which is sought by late October.

DURHAM UNIVERSITY
Department of Engineering

RESEARCH FELLOW
Automotive Engine Cooling Project

Applications are invited for the above post which is financed by a prominent multinational motor manufacturing company. The work involves the investigation of novel fan-radiator combinations for a wide range of passenger vehicle engine cooling applications.

Applicants must have a good Honours degree in Engineering. It is expected that the successful applicant will have two or more years of industrial experience ideally including some experience with a highly competitive mass produced product. The initial appointment will be for one year. Registration for a higher degree would be possible. A generous salary of up to £8,510 in the first year is offered.

Interested persons are invited to contact Dr M. J. Holgate at the following address or telephone (0385) 64971. Applications (3 copies) naming three referees should be sent by 20 September, 1982 to the Registrar, Science Laboratories, South Road, Durham DH1 3LE.

BIRMINGHAM
UNIVERSITY OF
Health Services Management Centre

TEMPORARY LECTURER IN HEALTH ECONOMICS

This post is tenable for 1 year, from 1 January 1983, as a temporary replacement for Mr I. F. Drummond, who will be on leave in Canada. Duties will include teaching on post-experience and postgraduate courses. In addition the successful applicant will be encouraged to develop personal research interests and/or participate in a number of research projects, already in progress. The post offers an excellent opportunity for those with an interest in applying economic theory and methods to the study of health service issues, especially problems of resource utilisation and allocation.

Salary on the scale £6,915–£10,805.

Further information can be obtained from Professor Williams or Mr Drummond at the Centre; 021-359 3611, ext. 248.

Applications (3 copies) including a curriculum vitae and the names of three academic referees should be sent to Miss Helen Jones, Senior Assistant Registrar, University of Birmingham, PO Box 363, Birmingham B15 2TT, before 30 September 1982.

LONDON
UNIVERSITY OF
BIRKBECK COLLEGE

DEPARTMENT OF RESEARCH Post

Applications are invited for the post of RESEARCH OFFICER to work with Dr. Dennis Snower on a 3 year research project funded by the Leverhulme Trust. The project aims to explore how the interaction of institutional, fiscal and monetary policies can be expected to reduce inflation and unemployment simultaneously.

Applicants should have an M.Sc. or Ph.D. in Economics and be qualified in econometrics, computer programming, macroeconomic theory and input-output analysis. Salary in range £8,800–£10,405 (including London Allowance).

Applications in duplicate, to include a full curriculum vitae, statement of relevant background and research interests, plus names of two referees, should be sent to Personnel Secretary, Birkbeck College, Malet Street, London, WC1E 7HX, by the 20th October 1982.

GRIFFITH UNIVERSITY
Brisbane, 4111, Australia

CHAIR IN MANUFACTURING ORGANISATION

Applications are invited from suitably qualified men and women for the post of Professor of Manufacturing Organisation in the Department of Engineering Production. The post involves extensive responsibilities in teaching and research in the development of computer aided manufacture, with special emphasis on the planning and control of production.

Salary will be within the professorial range currently averaging £19,400. Further particulars and application forms from Paul Johnson, Establishment Officer, ref. 82/16 BN.

Loughborough Leicestershire

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

LECTURESHIP

Applications are invited for a LECTURESHIP specialising in production management, in the Department of Engineering Production. Industrial or research experience is essential together with interests in one or more of the following areas: production control, quality and reliability, maintenance management, work organisation, systems analysis. The appointment, for three years, will be made in the lower half of the scale £6375 to £13505. Further particulars and application forms from Paul Johnson, Establishment Officer, ref. 82/17 EN.

Loughborough Leicestershire

UCB
The University College at Buckingham

LECTURESHIP IN LAW
TWO TEMPORARY LECTURESHIPS/ TUTORIAL ASSISTANTSHIPS IN LAW

Applications are invited for the above posts. Salary will reflect qualifications and experience. USS.

1. The person appointed to the Lectureship will be responsible for teaching Employment Law, and will assist in the teaching of other subjects. The post will run from January 1983, or as soon as possible thereafter.
2. The two temporary posts will be filled at Lecturer or Tutorial Assistant level. The posts will run from 1st January until 30th September, 1983.

Further particulars from the Academic Registrar, The University College at Buckingham MK18 1EG, with whom applications should be lodged by 6th October, 1982.

UCB
The University College at Buckingham

RANK FOUNDATION CHAIR OF LAW

Applications are invited for the above post which has become vacant following the appointment of Professor David Yardley as Chairman of the Commission for Local Administration.

Further details are available from the Academic Registrar, The University College at Buckingham, Buckingham MK18 1EG, with whom applications should be lodged by 6th October 1982.

ABERYSTWYTH
THE UNIVERSITY COLLEGE OF WALES
CHAIR OF BIOCHEMISTRY AND AGRICULTURAL BIOCHEMISTRY

The College Council invites applications for appointment to the Chair of Biochemistry and Agricultural Biochemistry.

Further particulars can be obtained from the Registrar (Staffing Office), The University College of Wales, Old College, King Street, Aberystwyth, Dyfed, SY23 2AX, Wales, U.K. (Tel No 0970 3177 Ext 207) by whom applications (12 copies) together with the names of three referees, should be received not later than Friday, 15 October 1982.

Applicants from overseas may submit one application by airmail. The College reserves the right to fill the Chair by invitation.

UNIVERSITY OF EDINBURGH
Institute for Applied Language Studies

English Language Testing

A postgraduate level scholarship funded by the Hornby Trust is available for an overseas student with experience of TEFL wishing to receive further training in the area of language testing. The scholarship will start in October 1982.

Applications as soon as possible to:

The Director
Institute for Applied Language Studies
21 Hill Place, Edinburgh EH8 9DP
Tel: 031 667 1011, ext. 4582.

from whom further particulars may be obtained.

Universities continued

UNIVERSITY OF NATAL
DEPARTMENT OF CROP SCIENCE
PIETERMARITZBURG

Applications are invited from suitably qualified persons regardless of sex, religion, race, colour or national origin, for appointment to the post of

PROFESSOR

The salary will be in the range R23 109 – R30 255 per annum.

The commencing salary notch will be dependent on the qualifications and/or experience of the successful applicant. In addition, an annual service bonus of 93% of one month's salary is payable, subject to Treasury regulations.

Application forms, further particulars of the post and information on pension, medical aid, group insurance, staff bursary, housing loan and subsidy schemes, long leave conditions, and travelling expenses on first appointment are obtainable from Miss Jenny Lloyd, South African Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE, with whom applications, on the prescribed form, must be lodged not later than 1st October, 1982 *quoting reference PMB 58/82.*

NEWCASTLE UPON TYNE
UNIVERSITY OF
REGISTRAR'S OFFICE

ASSISTANT REGISTRAR

Applications are invited for a permanent post as Assistant Registrar. Candidates should be graduates and should have had previous administrative experience, preferably in a university. Responsibilities will include work for the Faculty of Medicine (including the Sub-Faculty of Dentistry), but other university duties will also be required.

Salary will be at an appropriate point on the Administrative Band 1 scale: £10,670–£13,505 per annum, according to age, qualifications and experience but in view of the experience required it is likely that the successful candidate will be in the 25–30 years age range.

Further particulars may be obtained from the Deputy Registrar (P.), The University, 6 Kensington Terrace, Newcastle upon Tyne, NE1 7RU, with whom applications (6 copies) together with the names and addresses of two referees, should be lodged not later than 1st October 1982. Please quote reference 7388.

STRATHCLYDE
UNIVERSITY OF

Applications are invited for a Research Assistant to study the genetic control of glycolipids in wheat in the Plant Science Division of the Department of Bioscience and Biotechnology. This project, funded by the Agriculture Research Council, will involve collaboration with the Plant Breeding Institute, Cambridge. Applicants should have a good honours degree in biochemistry or similar subject, preferably with experience of lipids.

The appointment will be for three years, commencing October 1982, on a point on Range 1B of the national salary scale (currently £5,562–£8,055 per annum, depending on age and qualifications).

Curriculum vitae and names of two referees (quote ref No 2/83) to Professor W. Morrison, Food Science Division, Department of Biosciences and Biotechnology, Strathclyde University, Glasgow G1 1XD before 1st September 1982.

WARWICK
UNIVERSITY OF

LECTURESHIP IN LAW

Applications are invited for a post of Lecturer, the first of five tenable from 1st January 1983. The successful candidate will be expected to contribute to the teaching of Law will be considered. Salary up to the sixth point on the Lecturer A scale (£6,915–£10,805 p.a. Further particulars and application forms from the Academic Registrar, University of Warwick, Coventry, CV4 7AL, quoting Ref. No 4/82A/60/L. Closing date (for receipt of applications) is 30th September 1982.

NEW ZEALAND
MASSEY UNIVERSITY
Palmerston North

LECTURER IN SOCIAL ANTHROPOLOGY

Applications are invited for the above position in the Department of Social Anthropology.

Applicants should have an MA or higher degree in Social Anthropology. They should have conducted extended field research in Polynesia (non-Maori), Africa, Latin America or south Asia and should have acquired a competence in one or more languages related to that research. Teaching qualifications should include introductory courses in general Social Anthropology. Experience in teaching at a distance would be an advantage.

Theoretical interests should include family, kinship and marriage.

Salary: NZ$21,660 – $25,884.

Further details of the position together with the conditions of appointment may be obtained from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF, the University Registrar of the University, with whom applications close on 8 October 1982. H1

STIRLING
UNIVERSITY OF

DEPARTMENT OF BUSINESS STUDIES

Professor Alexander Chair in Distributive Studies

Applicants are invited for this newly endowed Chair from persons appropriately qualified in any aspect of distribution – wholesale or retail. Ability to play a part at all levels in the current departmental programmes and new developments will be looked for. Salary will be within the professorial range, average £19,405 plus USS.

Further particulars are available from the University Secretary, University of Stirling, Stirling FK9 4LA, Tel: 0786 3171, ext. 2390, to whom applications should be returned by 4 October 1982. H1

CAMBRIDGE
COLLEGES
(Groups A and B)

RESEARCH FELLOWSHIPS COMMENCING 1983–84

Christ's, Churchill, Jesus, Trinity, Selwyn Group A: Caius, Clare, Emmanuel, New Hall and Sidney Sussex (Group B). Applicants should have completed a research degree by 1st October. Details and application forms are available now from the Secretary (RF), 17 The Old Schools, Trinity Lane, Cambridge CB2 1TT.

CAMBRIDGE
GONVILLE AND CAIUS COLLEGE

RESEARCH FELLOWSHIPS

The Council intend to elect in 1983 one or more Research Fellowships open to all subjects of research students in the University who will be under 31 December 1983.

Full particulars may be obtained from the secretary of the Research Fellowships Committee, Gonville and Caius College, Cambridge. Completed applications for the following year must reach the College by 1 October 1982. H1

Fellowships

CAMBRIDGE
GONVILLE AND CAIUS COLLEGE

RESEARCH FELLOWSHIPS

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Full particulars may be obtained from the secretary of the Research Fellowships Committee, Gonville and Caius College, Cambridge. Completed applications for the following year must reach the College by 1 October 1982. H1

Polytechnics

SHEFFIELD CITY POLYTECHNIC
Department of Health Studies
LECTURER II IN NURSING STUDIES

Applications are invited from Graduate Registered Nurse Teachers who would be interested in participating in the teaching on the BA (Hons) Nursing Course. The post is funded by the General Nursing Council and would be subject to review by the UKCC/English National Board.
This position will be particularly suitable for a lively tutor wishing to gain experience in higher education.
Salary will be at a point within the range: £5855–£8503 per annum.
Informal visit and discussions are welcomed. Please contact Miss Ruth Champion, Department of Health Studies, 36 Collegiate Crescent, Sheffield, S10 2BP or telephone 0742 555274 ext. 249 or 208.
Closing date 24th September.

Department of Building
PRINCIPAL LECTURER IN BUILDING SERVICES ENGINEERING

Applicants for the position should possess relevant qualifications and suitable contracting and/or consultancy experience. Full-time teaching experience is essential. The successful applicant will be required to teach on degree and higher technician level courses, have a commitment to research and an interest in computer applications.
Salary Scale: £11981–£13890 (bar) – £15018.
Closing date 24th September.

LECTURER II IN QUANTITY SURVEYING/ CONSTRUCTION TECHNOLOGY

Applicants for this position should possess relevant qualifications and suitable contracting and/or consultancy experience. Teaching experience, whilst desirable, is not essential. The successful applicant will be required to teach on degree and higher technician courses and have an interest in pursuing research.
Salary Scale: £5855–£11092 per annum – under current salary regulations and subject to satisfactory performance, the successful candidate can normally expect incremental progression to the Senior Lecturer scale of which the present maximum salary is £12,816 per annum.
Closing date 20th September.

Application forms and further details are obtainable from the Personnel Officer, Sheffield City Polytechnic, (Dept THE), Hallfords House, Fitzalan Square, Sheffield, S1 1BB or by telephoning 0742 20911 ext. 387.

Sheffield City Polytechnic is an Equal Opportunities Employer.

Strathclyde
Department of Education

GLASGOW COLLEGE of TECHNOLOGY

DEPUTE DIRECTOR

Applications are invited for the post of the second Depute Director in the College.
Situated near the city centre, this Polytechnic type institution offers a wide range of degree courses in areas of business and management studies, social sciences, the humanities and technology and science.
The current student enrolment is some 3537 full-time and 3612 part-time; nearly half of the full-time students follow courses leading to CNAA awards.
The Depute Director will be part of the college management team.
Applicants should possess high academic qualifications and have experience of higher education in a post of senior responsibility.
The College is in Group 12 and the present salary is £22,131.
Application forms and particulars of the post may be obtained from the Director of Education, Further Education, Strathclyde House, 29 India Street, Glasgow, G2 4PF, to whom completed application forms should be returned. Closing date for receipt of applications is Friday, 24 September 1982.
EDWARD MILLER, *Director of Education*

CITY OF BIRMINGHAM POLYTECHNIC
Faculty of Art and Design
School of History of Art and Complementary Studies

Senior Lecturer in History of Art and Design

Applicants should have substantial experience of teaching at degree level.

Department of Three Dimensional Design
School of Furniture

LECTURER II

Required to teach Furniture Design and workshop studies to B.A. Honours Furniture Design students.
Candidates should have suitable design qualifications and have had a number of years experience designing for industry.

Faculty of Business Studies and Law
Department of Accounting and Finance

Senior Lecturer/Lecturer II

A vacancy exists in the Department for a lecturer with experience and/or interest in one of the following areas:
Accounting Information Systems and Auditing
Accounting Theory
Behavioural Aspects of Accountancy

Faculty of Engineering and Science
Department of Electrical Engineering

Senior Lecturer in Communication Engineering

Graduates in Electrical or Electronic Engineering with relevant industrial or research experience required. The person appointed will be expected to teach Communication Engineering subjects to Higher Technician and Degree students, and to participate in the research/consultancy activities in the Department.
For informal discussion please contact Head of Department on 021-356 6911 Ext. 283.

Department of Mechanical and Production Engineering

Lecturer II in Mechanical Engineering Instrumentation and Control (2 Posts)

To teach on BSc and TEC Higher Certificate courses in Mechanical and Production Engineering. Possession of a relevant degree and some industrial experience is essential.

Lecturer II in Mechanical Engineering Thermodynamics/Plant Engineering

To teach on BSc, HND and TEC Higher Certificate Courses in Mechanical Engineering. Applicants should have appropriate academic and professional qualifications and have had relevant industrial experience.

Lecturer II in Engineering Design (2 Posts)

To teach on HND and TEC Higher Certificate courses in Mechanical and Production Engineering. Graduates, or equivalent, required with industrial/ design experience. Ability to assist in the teaching of Materials Technology would be an advantage.

Lecturer II in Production Engineering

To teach on BSc, HND and TEC Higher Certificate courses in Mechanical and Production Engineering. Graduates, or equivalent, required with industrial and/or research experience preferably in machine tool technology.

Faculty of Social Sciences and Arts
Department of English and Foreign Languages

Lecturer II in Secretarial Studies (2 Posts)

Department of Government and Economics

Lecturer II/Senior Lecturer in Economics (2 Posts)

Preference will be given to candidates with a good honours degree in Economics and interests in the areas of Business/ Managerial Finance and Investment, and Industrial/Labour Economics and applied micro-economics. In addition ability to teach Introductory Economics over a range of degree, diploma and professional courses is essential.

Department of Librarianship

Lecturer II

Graduate Chartered Librarian required for the post of Lecturer II in Information Retrieval Studies. To teach on all courses in the Department in the areas of cataloguing, classification and information retrieval. Specific experience is less important than enthusiasm and the flexibility to participate fully in the Department's programme.

Department of Mathematics and Statistics

Lecturer II/Senior Lecturer in Engineering Mathematics

Required to teach Degree and Technician courses in Electrical Mechanical and Civil Engineering. Applicants should possess a good first degree in a mathematical discipline and a higher degree biased towards engineering and sciences.
Active research and teaching/industrial experience would be an advantage.

Polytechnic Library

Assistant Tutor Librarian – Lecturer Grade I

For the Technical Services section of the Main Library. Experience of computerised cataloguing would be an advantage.

Posts Tenable from 1st January, 1983.
Salary Scales:
LECTURER I – £5,355–£9,267
LECTURER II – £6,855–£11,022
SENIOR LECTURER – £10,173–£11,964 (bar) £12,816

Further details and application forms (to be returned by 29th September, 1982) from: The Personnel Officer, City of Birmingham Polytechnic, 'F' Block, Perry Barr, Birmingham B42 2SU. Telephone 021 356 9103, Ext. 216.

CITY OF BIRMINGHAM POLYTECHNIC
Faculty of Business Studies and Law
Department of Business and Management Studies

HEAD OF DEPARTMENT OF BUSINESS AND MANAGEMENT STUDIES (Grade VI)

This vacancy arises through the early retirement of the present Head.
SALARY SCALES:
Head of Department Grade V £14,679 – £16,305
Head of Department Grade VI £15,867 – £17,490

Further details and application forms (to be returned by 29th September, 1982) from: *The Personnel Officer, City of Birmingham Polytechnic, 'F' Block, Perry Barr, Birmingham B42 2SU.* Telephone 021 356 9103 Ext. 216.

LEEDS POLYTECHNIC

Head of the School of Law

(Re-Advertisement)

This post has become vacant due to retirement from September 1982.

Applicants should have good academic and/or professional qualifications together with substantial experience at a senior level in education or the legal profession.
Salary Scale: £16,884 – £17,490.

Details from: The Services Officer, Leeds Polytechnic, Calverley Street, Leeds LS1 3HE. Tel: 0532 462355.

Closing Date: 24 September 1982. Please enclose s.a.e.

Polytechnics continued

Appointments

Bristol Polytechnic

Readerships

Applications are invited for the post of Reader in the following areas:

Law –
Ref No L33/41

Engineering –
Ref No L52/42

Education –
Ref No L76/44

Management Studies –
Ref No L27/40

In each case the Polytechnic is seeking to appoint a person with a good record of research and publication and an ability and willingness to stimulate colleagues in research. It is Polytechnic policy that Readers should also undertake a teaching commitment of approximately half that usually carried by staff in the Department.

SALARY SCALE:
£11931 – £13290 (bar) – £15018 per annum

For further details and an application form, to be returned by 24 September 1982 please contact the **Personnel Office, Bristol Polytechnic, Coldharbour Lane, Frenchay, Bristol, or ring Bristol 658261 ext 575.**

Please quote appropriate Reference Numbers in all communications

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DEPARTMENT OF MATHEMATICS, STATISTICS AND OPERATIONAL RESEARCH

LECTURER GRADE II/ SENIOR LECTURER IN MATHEMATICS

(£6855 – £12816)

Applications are invited for a permanent full-time appointment from 1 January 1983, or earlier if possible. Candidates should hold appropriate qualifications and have relevant teaching, research or professional experience.

Further particulars and forms of application may be obtained from the Staff Officer, Trent Polytechnic, Burton Street, Nottingham NG1 4BU. Closing date 22 September 1982.

TRENT POLYTECHNIC NOTTINGHAM

Hertis –
The Hatfield Polytechnic

Deputy Librarian

A challenging and important post with major responsibilities within the Hatfield Polytechnic Library and for the direction of the HERTIS network of college libraries. Duties include financial and personnel matters and involvement in running the Industrial Services Unit.

Salary Burnham Principal Lecturer grade: £12162 – £13521 – (bar) – £15429, including local weighting.

For further details and application form, write or telephone to: **The Staffing Officer, The Hatfield Polytechnic, P.O. Box 109, College Lane, Hatfield, Herts. Hatfield 68100, ext 309. Please quote reference 545.**

Closing date for receipt of applications – 8 October 1982.

The Polytechnic Wolverhampton

TEMPORARY LECTURER II/ SENIOR LECTURER IN METALLURGY

Applications are invited for the above post in the Department of Physical Sciences, tenable for 2 years.

The successful candidate will be required to teach to honours degree level and to make a contribution to research. Preference will be given to candidates with a higher degree who have appropriate teaching experience. Some expertise in one or more of the following subject areas would be of advantage: materials and process selection, thermal treatment or welding, however, candidates with a physical metallurgy background should not be discouraged from applying.

Details and application forms (returnable by September 30th) from Establishment Clerk, The Polytechnic Wolverhampton WV1 1SB or Tel: Wolverhampton (0902) 710854 (ansaphone).

SHEFFIELD CITY POLYTECHNIC

DEPARTMENT OF SCULPTURE VISITING FELLOWSHIP

The Sculpture Department of the Faculty of Art and Design is offering a Visiting Sculpture Fellowship for the academic year 1982/3. The allowance will be approximately £2,200 and studio accommodation and workshop facilities will be provided. The Fellowship will involve 6 hours teaching per week.

Further details are available from the Personnel Department, Sheffield City Polytechnic (Dept THES) Hallcrafts House, Fitzalan Square, Sheffield S1 2BB. Tel: (0742) 20911, Ext. 387. Closing date for applications: 22nd September.

Sheffield City Polytechnic is an Equal Opportunities Employer.

National Microelectronics Facility – Semiconductor Fabrication

The Government of Ireland has identified Microelectronics as a strategically important technology for development within the country. As one of a number of initiatives it has assigned substantial resources to the establishment of a microelectronics facility in Dublin for fabrication and applications centre at the National Institute for Higher Education, Dublin.

A modern designed building and has been semiconductor fabrication, assembly and test facilities will be provided.

Director

A dynamic Director will make experience in the semiconductor fabrication field coupled with proven management ability is now being sought. The person appointed will be responsible for progressing the design and construction of the building and the specification of initial equipment for the project and subsequently for directing the operations of the Centre.

The Centre will have a strong industrial orientation and will be closely associated with the National Institute for Higher Education and other third level colleges in Ireland.

An attractive salary, commensurable with experience, will be offered for this challenging post.

It is intended to make an early appointment and interested applicants should enclose a Curriculum Vitae when sending for further information to:

National Microelectronics Facility, C/o. National Institute for Higher Education, Glasnevin, Dublin 9, Ireland.

Closing date for receipt of Curricula Vitae is 11th October, 1982

FACULTY OF BUSINESS

SYSTEMS ANALYSIS AND DESIGN PRINCIPAL LECTURER or LECTURER II/SENIOR LECTURER

Applications are invited from persons able to offer specialist knowledge in applications of information technology such as Information Systems Management, Distributed Databases, Communications Management and Networking.

For an appointment at PL grade proven academic leadership is required, together with an established and continuing research interest in Systems methodologies.

PL: £11,931–£15,018
LII: £8,855–£11,022
SL: £10,173–£11,864 (Bar)–£12,816

Application forms and further details from:

The Personnel Office
Hull College of Higher Education
Inglemire Avenue
Hull HU6 7LU
Tel. (0482) 446506

Closing date for receipt of completed application forms – 23rd September 1982.

Full and fair consideration will be given to all disabled applicants.

Hull College of Higher Education

COVENTRY (LANCHESTER) POLYTECHNIC

DEPARTMENT OF APPLIED SOCIAL STUDIES

PRINCIPAL LECTURER IN SOCIAL WORK

The successful candidate will be required to lead the team of lecturers responsible for the professional work teaching on both the Diploma and Certificate courses.

Applicants should be professionally qualified with a wide range of both practical and teaching experience, have a keen awareness of the academic and research elements in social work education and a commitment to improving practice.

Salary Scale: £11,931–£13,518.

Details from Assistant Personnel Officer, Coventry (Lanchester) Polytechnic, Priory Street, Coventry, CV1 5FB. Enclose a large self-addressed envelope. Closing date Monday 27th September, 1982. HS

An Equal Opportunity Employer.

TEESSIDE POLYTECHNIC

DEPARTMENT OF COMPUTER SCIENCE

READER IN COMPUTER AIDED DESIGN

Salary £11,931–£15,018

Applications are invited from suitably qualified and experienced persons for the above post.

The CAD Group was established in the Polytechnic three years ago, and an extensive range of CAD systems has been installed, based on a dedicated Prime 250 computer. A number of courses, developments and research projects are underway, mainly in mechanical engineering applications and computer graphics.

The Reader is required to lead the CAD Group, to contribute to courses in CAD, to supervise research and to maintain close contact with CAD users in industry.

Applicants should have good academic qualifications in either computing or engineering and substantial practical experience of CAD.

Application forms and further details can be obtained from the Personnel Section, Teesside Polytechnic, Borough Road, Middlesbrough, Cleveland. Tel: 2181/61 Ext 4113.

Closing date 24 September 1982. HS

Colleges and of Higher Education

ABERDEEN COLLEGE OF EDUCATION

PRINCIPAL

Applications are invited for the post of Principal of Aberdeen College of Education.

Salary £20,097 per annum.

The successful applicant will be expected to assume duty by 1st September, 1983.

Further information and forms of application for the post may be obtained from:

The College Secretary,
Aberdeen College of Education,
Hilton Place,
Aberdeen AB9 1FA

to whom completed applications should be returned not later than Friday, 22nd October 1982.

JAMES SCOTLAND
Principal

DERBY LONSDALE COLLEGE OF HIGHER EDUCATION

LECTURER GRADE II IN COMPUTING

The successful candidate will be required to teach Management Information Systems, Systems Analysis and Data Processing on a variety of courses and should be able to offer specialist knowledge in one or more of Systems Analysis, Data Base Design, Real Time Commercial Systems or Distributed Processing Systems.

Salary Scale:
Lecturer Grade II
£6,855–£11,022

Application forms and further particulars from the Staffing Officer, Derby Lonsdale College of Higher Education, Kedleston Road, Derby DE3 1GB, telephone Derby 47181 extension 22, to whom completed forms should be returned by Friday, 24th September 1982.

EXMOUTH ROLLE COLLEGE

LECTURER II in PHYSICAL EDUCATION

Required for January 1983, tutor to be responsible for the basic course in Physical Education for intending primary teachers. Qualifications and an interest in Children with Special Needs or Geography would be seen as an advantage.

TEMPORARY LECTURER II in THEATRE ARTS

A temporary full-time Lecturer for two years from January 1983, initially, to teach Theatre Arts (Drama in the BA Combined Studies and BEd (Professional Studies) courses.

Salary Scale Lecturer II £6,855–£11,022

Application forms and further particulars relating to these appointments may be obtained from:

The Secretary to the Principal, Rolle College, Exmouth, Devon. EX8 2AT (Tel. 53441).

The closing date for completed applications will be 27th September 1982. HS

Colleges of Higher Education continued

PRINCIPAL LECTURER
Management Accounting/Financial Management

Applications are invited for this key post in the School of Finance & Administration, where the postholder will fulfil a major role in the continuing development of the School, in addition to providing academic leadership in the discipline and contributing to the teaching of Management Accounting and Financial Management to degree and final professional level. Applicants should hold qualifications appropriate to the senior level of the post and recent experience in research, commerce or industry would be an advantage, as would a sound knowledge of computer applications.

Salary: £11,931 – £13,290 (bar) £15,018

Application forms and further particulars from:
The Personnel Office
Hull College of Higher Education
Inglemire Avenue
Hull, HU6 7LU. Tel: (0482) 446506

Closing date for receipt of completed application forms – 8th October 1982
Full and fair consideration will be given to all disabled applicants

Hull College of Higher Education

FACULTY OF SCIENCE

ENGINEERING & MARITIME STUDIES READER IN ELECTRONICS/ MICROPROCESSOR APPLICATIONS

£11,931–£15,018

Applications are invited from persons active in research with proven experience of research supervision. Preference will be given to applicants who have some experience in the field of Computing Engineering, or Process Monitoring and Control or Digital Data Transmission.

Application forms and further details from:
The Personnel Office
Hull College of Higher Education
Inglemire Avenue, Hull HU6 7LU
Tel. (0482) 446506

Closing date for receipt of completed application forms – 27th September, 1982.

Full and fair consideration will be given to all disabled applicants.

Hull College of Higher Education

NIHE
NATIONAL INSTITUTE FOR HIGHER EDUCATION DUBLIN

Lectureship in Translating (French)

The School of Applied Languages at present offers two undergraduate programmes, each of 4 years duration: B.A. in Applied Languages (Translating with Interpreting), and B.A. in Languages plus International Marketing.

Applications are invited from educators capable of teaching translation skills, to an advanced level, from French into English. Applicants should hold a good honours degree together with substantial professional experience as translators. Possession of a recognised award in Translating will be an advantage.

Salary Scale: Lecturer: IR£11,865 - IR£16,561
Assistant Lecturer: IR£9,295 - IR£11,387

Application forms and further details are available from: The Personnel Office, National Institute for Higher Education, Glasnevin, Dublin 9, Ireland. Closing Date: 1st October, 1982.

DORSET LEA

Dorset Institute of Higher Education
Appointment of Director

Applications are invited from graduates with substantial experience in Higher Education and who hold or have held posts carrying senior management responsibility within a college. Appointment to commence from April 1983. The salary will be at a fixed point within the range for a Group 8 college (£21,972–£22,929).

Application forms and further particulars may be obtained from the County Education Officer, County Hall, Dorchester, Dorset DT1 1XJ. Telephone enquiries to Mr. J. E. Cooper, Principal Assistant Education Officer at Dorchester 63131 Extension 4381.

Closing date for receipt of applications will be 24th September, 1982.

BOLTON INSTITUTE OF HIGHER EDUCATION

Department of Civil Engineering & Building

Applications are invited for the post of LECTURER GRADE I/II (SENIOR) IN CIVIL ENGINEERING. Applicants must have honours graduate or Chartered Civil Engineering and Chartered Civil Engineers.

The person appointed will be required to teach mainly Soil Mechanics and Foundation Engineering to undergraduate, postgraduate and higher technician students. The ability to teach some aspects of Civil Engineering Construction will be advantageous.

The appointment will be under the Lecturer Grade II or Senior Lecturer level. The grading and point of entry to the scale will depend upon qualifications and experience. Previous teaching experience, although desirable, is not essential. Duties to commence as soon as possible.

Potential applicants may telephone the Head of Department for an informal discussion (Bolton 28851 ext. 209).

Salary scales: Lecturer II: £6,855–£11,022. Senior Lecturer: £10,173–£12,816.

Application forms and further details may be obtained from the Academic Registrar, BOLTON INSTITUTE OF HIGHER EDUCATION, Deane Road, BOLTON BL3 5AB to whom completed application forms should be returned by Monday 27th September 1982. HE

COLCHESTER INSTITUTE

SCHOOL OF MUSIC

LECTURER IN CONTEMPORARY MUSIC

A full-time Lecturer is required as soon as possible to teach Contemporary Music, including Analysis and Electronic Music to graduate and post-graduate students in this area, including recognised music school which prepares students for C.N.A.A. degrees and careers in musical entertainment, teaching and administration.

Salary (Lecturer II/Senior Lecturer Grade): £6,855–£10,173 (bar) – £12,816. Starting salary according to experience and qualifications.

Further details and application forms obtainable from the Director, Colchester Institute, Sheepen Road, Colchester, Essex CO3 3LL. Telephone Colchester 76273 (ext. 95).

Closing date: 14 days from the appearance of this advertisement. HE

Appointments Wanted

Personal

IMMEDIATE ADVANCES £100 to £20,000. Written terms on request. Regional Trust Ltd., 31 Dover Street, Piccadilly, London W1A 4NT. Phone 01-491 2934 or 499 5416. L000

SOCIAL SCIENCE Doctor candidate awaiting viva seeks interesting work. Box No. THES 0735 Friar House, 39 Jobns Lane, London EC1. H17

Research and Studentships

WEST GLAMORGAN INSTITUTE OF HIGHER EDUCATION

RESEARCH ASSOCIATES
M. Phil., Ph.D.

Applications are invited from recent Honours Graduates, or equivalent, for a number of posts as full-time Research Associates. The successful applicants will be required to undertake supervised research for the degree of M.Phil/Ph.D of the C.N.A.A. and to perform some teaching duties. The posts will last for two or three years and are available in the following areas:

FILM STUDIES
Degree in Media Studies required
MICRO-ELECTRONICS
Degree in Micro-electronics required
BUSINESS INFORMATICS
Degree in Management Science required

Research Associates will be required to seek registration with the C.N.A.A. for a Higher Degree; research topics to be discussed at interview.

Salary scale: Burnham Scale 'A': £4,818 per annum.

Further details and an application form are available from The Principal, West Glamorgan Institute of Higher Education, Townhill Road, Swansea. (s.a.e. please).

Closing date for applications: 16 September 1982.

RESEARCH VISITS FOR SOCIAL SCIENTISTS
Research Visits to: Federal Republic of Germany France or Sweden

Social science staff of UK higher educational and independent research institutions are invited to apply for SSRC awards for visits during 1983/84 aimed at developing contacts with social scientists in the above countries or doing preliminary research there. Awards are normally for a period of a few weeks and only exceptionally for up to three months. The financial support provides for travel, subsistence and minor research expenses. A detailed programme and timetable for the proposed visit is required and a working knowledge of the host country's language is normally expected.

Further details and application forms from: Dr. John Malin, The Officer in Charge of Research Visits, SSRC, 1 Temple Avenue, London EC4Y 0BD. Please state which country you hope to visit and quote reference RV/T. Applications must be returned by 29th October, 1982.

SSRC

DEPARTMENT OF ACCOUNTING AND FINANCE

RESEARCH ASSISTANT/ DEMONSTRATOR

(£5,355 – £5,580 – £5,808 – £6,039)

Applications are invited for a post to commence as soon as possible with in the above department to undertake research in one of the following areas:–

Accounting for Price Level Changes (Current Cost Accounting) – E123.

A Study of Cash Flow Accounting – E124.

The person appointed would be expected to register for a higher research degree, and should already hold a good honours degree in a relevant subject.

Further details and form of application are available from The Staff Officer, Trent Polytechnic, Burton Street, Nottingham NG1 4BU. Closing date 24 September 1982.

TRENT POLYTECHNIC NOTTINGHAM

SPORTS COUNCIL/ SOCIAL SCIENCE RESEARCH COUNCIL

Joint Panel on Recreation and Leisure Research

PROJECT 1: Leisure and the Home – to explore the pattern of activities in home and garden of different types of household, and to analyse how decisions about leisure are made in each household.

PROJECT 2: Leisure and Gender – to examine the differences in leisure opportunities, activities and satisfaction between men and women and to explore how women perceive their leisure opportunities.

Both projects to start in 1982/3 and to continue for 18-24 months.

Write for project briefs and application forms to: John Papadachi, Social Science Research Council, 1 Temple Avenue, London EC4Y 0BD. (Tel: 01-353 5252). Closing date for applications is 7 October 1982.

BRIGHTON POLYTECHNIC
FACULTY OF ART AND DESIGN
Department of Art History
RESEARCH ASSISTANT
£4,680–£5,355

To undertake research into design and manufacturing development in the silk industry of Lyon in the late 17th and 18th centuries.

Candidates should have a good honours degree and a sound working knowledge of written and spoken French. General knowledge of textile/fashion history in the period desirable.

Further details and application forms from the Deputy Head of Personnel, Brighton Polytechnic, Moulsecoomb, Brighton BN2 4AT. Tel: Brighton 693655, Ext. 2536. Closing date 1 October 1982.

LONDON UNIVERSITY OF GOLDSMITHS' COLLEGE

Department of Chemistry

SERC CASE STUDENTSHIP

Applications are invited from good honours graduates for a postgraduate studentship to commence shortly.

The programme involves the collection of research spectra from surfaces and the development of optical attachments for a Fourier Transform IR machine.

Applications, with a curriculum vitae and the names of two referees, should be sent to Dr. J. F. Nayler, Department of Chemistry, University of London, Goldsmiths' College, New Cross, London SE14 6NW. H110

ABERYSTWYTH THE UNIVERSITY COLLEGE OF WALES

DEPARTMENT OF PHYSICS

Applications are invited for the post of POSTDOCTORAL RESEARCH ASSISTANT for a period of one year in the first instance to undertake research involving ion-molecule reaction studies using flow tubes methods. Salary in the range £6,339 to £7,233 per annum.

Application forms and further particulars are obtainable from The Registrar, Staffing Office, The University College of Wales, Old College, King Street, Aberystwyth, Dyfed SY23 2AX (Tel 0970 3177 Ext 2573). Closing date for applications: Friday, 24 September 1982. H110

KINGSTON POLYTECHNIC

RESEARCH ASSISTANT IN HISTORY

A research assistant is required for one or two years (or equivalent) to compile an archive on the history of Kingston Polytechnic and (b) carry out research of this field with a view to producing a history of the Polytechnic.

Applicants should possess a degree in modern history with preferably research and/or writing experience in an appropriate specialism. The research will be supervised by Dr Peter Addinall, Reader in History.

Salary: £4,680–£5,355 + London allowance £549.

Write for further details and application forms, enclosing stamped addressed envelope, to The Academic Registry, Dept. AP/H, Kingston Polytechnic, Penrhyn Road, Kingston upon Thames KT1 2EE. H10

Administration

HAMPSHIRE

THE ASSOCIATED EXAMINING BOARD

The Board invites applications for the post of Chief Examiner (GCE) in Psychology (651) at Advanced Level, for the 1984 examination.

Applicants should have a Degree or equivalent qualification in Psychology, a minimum of four years' experience in teaching experience and examining experience.

Further information and an application form may be obtained from The Secretary General (AB), The Associated Examining Board, Wellington House, Aldershot, Hampshire, GU11 1BQ, to whom completed forms should be returned not later than three weeks after the appearance of this advertisement. H11

Administration continued

ILEA Inner London Education Authority

Deputy Education Officer —

Resources (Chief Officer post)

Salary: £23,415–£26,016

(under review)

plus £1,284 per annum London Weighting
(Appointment may be made above the minimum)

Applications are invited for this challenging top management position in the country's largest education authority. The post-holder will be responsible, in association with the Director of Finance, for the preparation of the Authority's Budget of around £900 million. He/she will have oversight of building and maintenance programmes; the personnel function for 40,000 non-teaching staff; education catering; and a wide range of other support services. The successful implementation of the Authority's policies and programmes on equal opportunities in the ILEA as a major employer and in its role as a leading Local Education Authority will be a key feature in the duties of the post.

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Further information on this position may be obtained by contacting Mrs M. I. Stockley on 01-633 3387.

Application forms (together with detailed job description) may be obtained from the Education Officer (reference EO/Estab 1b, Room 365), The County Hall, London SE1 7PB.

Completed forms should be returned no later than 30 September 1982.

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Further details and application forms from the Deputy Head of Personnel, Brighton Polytechnic, Moulsecoomb, Brighton BN2 4AT. Tel: Brighton 693655 Ext: 2539. Closing date 1st October.

DURHAM COUNTY COUNCIL
DURHAM AGRICULTURAL COLLEGE

VICE-PRINCIPAL
(4–5)

Applications are invited for the post of Vice-Principal of Durham Agricultural College (Salary Scale points 4–5). The appointment will be effective from 1st January, 1983.

Further details and application forms, returnable by 25th September 1982, are obtainable from the Director of Education, County Hall, Durham, on receipt of a stamped addressed foolscap envelope.

PLEASE MENTION THE TIMES HIGHER EDUCATION SUPPLEMENT WHEN REPLYING TO THESE ADVERTISMENTS

COUNCIL FOR NATIONAL ACADEMIC AWARDS

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Applications are invited for the post of Assistant Chief Officer which will become vacant during the current academic session. The Assistant Chief Officer will have major responsibilities for the co-ordination of the work of the Council in two of the following fields: Art and Design, Arts and Humanities, Business and Social Studies, Education and Interfaculty Studies and Science. He or she will also have a central role in the formation and implementation of policy and in providing the main link between the Council and some fifty of the Colleges offering courses leading to CNAA awards.

Applicants should have appropriate experience. While experience of teaching, research and administration in the field of higher education would be particularly appropriate, the Council will also consider applications from persons who have gained experience in posts carrying major responsibility in other fields.

The salary on appointment will be within the range £20,748 – £24,858 p.a. including London Weighting.

Further particulars may be obtained from:

Assistant Secretary (Personnel)
CNAA
344/354 Gray's Inn Road
London WC1X 8BP

Tel: 01-278 4411

to whom applications giving details of qualifications and experience and the names of three referees should be submitted by 24 September 1982.

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To co-ordinate the validation and approval of applications to run BEC courses and their moderation. Substantial administrative experience essential, preferably in an examining, validating or other educational or training organisation. Good degree or equivalent and age not less than 30.

Salary range £9,125 to £13,650.

Details and application form from **Business Education Council (SAO post), Berkshire House, 168/173 High Holborn, London WC1V 7AG.**

BEC BUSINESS EDUCATION COUNCIL

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Applications are invited from candidates with relevant experience in Higher Education or related organisations at a senior level.

For further details apply to:

Personnel Officer,
Kingston Polytechnic
Penrhyn Road,
Kingston upon Thames, Surrey KT1 2EE
Tel: 01-549 1366 Ext. 205

The closing date for the receipt of completed applications is Thursday, 30th September, 1982.

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The City Council is an Equal Opportunity Employer and welcomes applications irrespective of race, colour, religion or political opinion.

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Forms and further particulars available from the Recruitment Section, Room 211, 14 Sir Thomas Street, Liverpool L1 6BJ. Tel: 051-227 3811 and returnable to the Director of Education (Personnel Section), Sir Thomas Street, Liverpool L1 6BJ, by 28 September.

LEEDS
THE UNIVERSITY OF
OFFICE OF THE BURSAR

ESTABLISHMENTS AND PERSONNEL

Applications are invited for the post of Administrative Assistant in the Establishments and Personnel Office. The duties of the person appointed will be to assist in the general supervision over the various sections of staff administration matters, but will be of particular emphasis on Superannuation, the work of which will be the responsibility of one of the Assistants. It is expected that successful applicants will have a degree or hold a relevant professional qualification.

Salary on the scale for Administrative Assistant (£7,155–£8,871) according to age, qualifications and experience.

Further particulars may be obtained from the Registrar, The University, Leeds LS2 9JT, quoting reference number 82/AA. Closing date for applications 1 October 1982. RTS

Adult Vacancies

NORTHERN COLLEGE
Wentworth Castle, Nr. Barnsley

Applications are invited for two new posts:

Tutor in Economics and Statistics and Tutor in Media Studies

both posts to start work on 1st January, 1983, on one year contracts in the first instance.

The College is one of the residential colleges of Adult Education recognised by the Department of Education and Science and founded by the four South Yorkshire Education Authorities.

Applicants for the *Tutorship in Economics and Statistics* should have a good degree in economics with experience of teaching economics and applied statistics to adults with little or no previous knowledge of mathematics. Experience of teaching trade unionists an advantage. Continuation of the post will depend on the maintenance of student numbers.

Salary according to age and experience on University Scale up to Point 8 (currently £8,880 – £8,925).

Applicants for the *Tutorship in Media Studies* should have had some involvement in adult, trade union or community education and a qualification in media studies and production. The post is funded by the BFI to develop media studies in the College with additional support for equipment and can be expected to be financed for at least three years.

Salary on the University scale up to Point 5 (currently £6,600 – £7,700).

For further details of both posts, send s.a.e. to The Registrar, Northern College, Wentworth Castle, Stainborough, Barnsley, South Yorkshire, S75 3ET, to whom applications should be addressed. Closing date, 4th October, 1982.

WEA Berks Bucks & Oxon
WORKERS' EDUCATIONAL ASSOCIATION

District Secretary
(£11487 – £13044)

required from January 1st, 1982. We are looking for an energetic and enterprising person, preferably with adult education experience to coordinate the work of this lively District of the WEA.

Closing Date: 24 September.
Details from Mrs. Ann Risman, District Secretary, WEA, 3 Cornmarket Street, Oxford OX1 3EX.

MIDDLESBROUGH
THE UNIVERSITY OF LEEDS

Department of Adult Education and Extramural Studies

The Non-Residential Adult Education Centre, Middlesbrough

DEPARTMENTAL ASSISTANT

Applications are invited for a post of Departmental Assistant at the Adult Education Centre, Middlesbrough which is available immediately. Applicants should be graduates, preferably having had experience in administration and in the education of adults. The successful candidate will be primarily concerned with the organisation of adult and continuing education courses.

Salary on the IB Grade of the scale for Administrative Staff (£6,630–£9,370) according to age, qualifications and experience.

Application forms and further particulars may be obtained from the Registrar, The University, Leeds LS2 9JT, quoting reference number 82/AA. Closing date for applications 1 October 1982. RTS

Colleges with Teacher Education

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Candidates should possess professional qualifications in Curriculum Development preferably at Masters degree level, plus substantial experience of teaching pupils with Special Educational Needs in ordinary schools. Need for school-based involvement in curriculum research or curriculum development would be an advantage, as would an interest in the teaching of Mathematics to less able pupils.

Salary scale: Lecturer II £6,855 – £11,082 (plus £454 Inner London Allowance) subject to formal approval.

Further details and application forms may be obtained from the Principal to whom completed forms should be returned by 1st October, 1982.

Classified Advertisements
To advertise in the THES please phone JANE McFARLANE ON 01-253 3000 ext 232
The Times Higher Education Supplement
Priory House, St Johns Lane
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This is a part-time course starting in October 1982 for two evenings a week, lasting two years.

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Further details and application forms for this and related Diplomas in Computing and Mathematical Education are available from:

The Business School
(Stapleton House)
Polytechnic of North London
Holloway Road
London N7 8DB
(Tel: 01-607 2789 Ext 2464)

The Polytechnic of North London

MILTON KEYNES
THE OPEN UNIVERSITY

COURSE U205: 'ISSUES IN HEALTH AND DISEASE'
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Applications are invited for a three-year post to work on a new inter-faculty course 'Issues in Health and Disease'.

This appointment offers an opportunity to play a central role in the choice and production of teaching materials based upon an integrated use of different instructional media, i.e. written texts, television and radio programmes.

This course is strongly interdisciplinary in nature, combining biological and social sciences with an important community medicine input. Candidates should hold a good first degree in social sciences; a higher degree is desirable. Experience in the economics, sociology or politics of health and medicine is essential.

This post is available immediately for three years initially. Salary will be within the lecturer A4 salary scale £6,975 – £13,305 p.a. Starting salary will depend on age and experience.

Application forms and further particulars are available from the Assistant Secretary (Ref: ARK 1), The Open University, Walton Hall, Milton Keynes, MK7 6AA, or telephone Milton Keynes (0908) 653481: there is a 24 hour answering service on 653868.

Closing date for applications: 28th September 1981

REMINDER

COPY FOR CLASSIFIED ADVERTISEMENTS IN THE

T.H.E.S.

SHOULD ARRIVE NOT LATER THAN 10.00 AM MONDAY PRECEDING

THE PUBLICATION

Overseas

CAREER OPPORTUNITIES IN SINGAPORE FOR ENGINEERING PROFESSIONALS

Career opportunities exist in Singapore for engineering professionals who like teaching and are looking for challenging jobs in tertiary institutions.

The Nanyang Technological Institute, fully supported by the Government of Singapore, was set up in 1981 to conduct engineering degree courses with an emphasis on engineering applications. The aim of the Institute is to produce practice-oriented engineers to meet the manpower needs of Singapore. It is one of the two institutions in Singapore that provide engineering education at university level.

Due to the rapid expansion programme in engineering courses at university level, excellent opportunities exist for candidates with higher academic qualifications and sound professional engineering/teaching experience to fill the teaching positions in the following Schools of Engineering:

Civil and Structural
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Appointments may be made at any of the following levels, depending on candidates' qualifications and experience, on an annual salary (including a 13th month allowance) range of:–

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In addition to the salary, the institute contributes 22% of the monthly salary of the staff member towards the Central Provident Fund Scheme to which the staff member contributes 23% of his salary subject to a maximum of S$690. The amount standing to the credit of the staff, which is income tax exempt, can be withdrawn when he reaches the age of 55 or when he leaves Singapore/Malaysia permanently.

The institute provides housing on campus at a highly subsidised rate. Other benefits include car loan, education allowance, setting-in allowance, medical benefits, leave and passage assistance.

A staff recruitment team from the Institute will visit the United Kingdom from 13 to 24 September 1982. Candidates who are interested are welcome to meet members of the team according to the schedule below. There will be a talk cum video presentation on Singapore. Prospective applicants and their spouses are cordially invited to the talk.

London	Tuesday 14 Sept 1982 9.30 a.m. to 12 noon	Singapore High Commission 2 Wilton Crescent London, SW 1
Manchester	Saturday 18 Sept 1982 9.30 a.m. to 12 noon	The Britannia Portland Street Manchester M13 LA
Birmingham	Wednesday 22 Sept 1982 9.30 a.m. to 12 noon	The Apollo Hotel Hagley Road Edgbaston Birmingham

Those who are unable to meet the recruitment team but are nevertheless interested in being considered for appointments should write to the Registrar, Nanyang Technological Institute, Upper Jurong Road, Singapore 2263 giving their curriculum vitae and names and addresses of three referees.

TRINITY COLLEGE
TORONTO, ONTARIO M5S 1H8

DEAN OF DIVINITY

The University of Trinity College, Toronto, is seeking a Dean of Divinity to administer the affairs of its Faculty of Divinity and to take part in its teaching. The appointment will be for a five-year term as of July 1, 1983. At the completion of term reappointment is possible for a further five years. Provision will be made for the incumbent to continue teaching in the Faculty after completion of term as Dean.

The Faculty of Divinity of Trinity College is affiliated with the Anglican Ecclesiastical Province of Ontario and is in federation with the Toronto School of Theology and the University of Toronto. Through the Faculty of Divinity the College is an accredited member institution of the Association of Theological Schools of the United States and Canada.

Applications should be made in writing, accompanied by a complete *curriculum vitae*, to: Professor K. L. Schmitz, Chairman, Search Committee, c/o Provost's Office, Trinity College, 6 Hoskin Avenue, Toronto, Canada M5S 1H8. Submissions must be received by 15 October, 1982, but the College reserves the right to consider applications and make appointment beyond this date.

DEAN

School of Engineering
DUKE UNIVERSITY

Duke University is a private coeducational institution composed of three undergraduate schools and six graduate and professional schools. There are 5700 undergraduate and 3500 graduate and professional students. The School of Engineering has 850 undergraduate and 125 graduate students. The baccalaureate degree programs in Biomedical, Civil and Environmental, Electrical, and Mechanical Engineering and Materials Science are fully accredited. Graduate degrees through the doctorate are offered in each department through the Graduate School. Several co-curricular programs exist, such as the Center for the Study of Energy Conservation; the Center for Environmental Studies, and a cooperative program in microelectronics with the Microelectronics Center of North Carolina located in the nearby Research Triangle Park.

Nominations and applications from qualified persons for the position of Dean of the School of Engineering are invited. Applicants must have an earned doctorate in engineering and a distinguished record of scholarly accomplishment. Demonstrated ability to raise funds for institutional and research activities, leadership skills, and administrative experience are necessary.

Application materials, including a letter of application, curriculum vitae, and names, addresses, and phone numbers of five references should be sent to:

Dr. Crauford D. Goodwin
Vice Provost and Dean of the Graduate School
127 Allen Building
Duke University
Durham, NC 27706 U.S.A.

Deadline for receipt of application is November 1, 1982. Duke University is an affirmative action/equal opportunity employer.

Phillip Institute of Technology

Bundoora Campus, Melbourne

Lecturer in Human Anatomy

Phillip Institute of Technology operates two campuses in the northern suburbs of Melbourne with courses offered in nine Schools – the Schools of Applied Science, Art and Design, Business, Chiropractic, Community Studies, Education, Nursing, Physical Education & Leisure Studies, Social Work, B.P.T. students total 3,300 for 1982.

The Department of Anatomy and Physiology is responsible for service teaching in the nursing, chiropractic, and physical education degree programs and in the nursing diploma program. This position is specifically in anatomy. The Department has a well established human anatomy laboratory with demonstration, dissection, prosection areas and includes a museum/study area.

The successful applicant will be required to work primarily in the Bachelor of Applied Science (Chiropractic) Program and should have appropriate expertise in histology, embryology, or gross anatomy. Experience in dissection and the preparation of prosected specimens is essential.

Appropriate tertiary qualifications with emphasis in the subject areas are required. Tertiary teaching experience would be beneficial.

Salary range: $A20,963—$A27,539 p.a.

Date of commencement: 1st February, 1983 or by negotiation.

Further details including a job description are available from Phil Manser on (03) 468 2257.

Written applications by the closing date, Friday 29th October, 1982, should be forwarded with the names and addresses of three referees, to the Personnel Manager, Phillip Institute of Technology, Plenty Road, Bundoora, Vic. 3083, Australia.

Chisholm Institute of Technology
Melbourne, Australia

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In collaboration with General Electric, the Marketing Department of the David Syme Business School is offering a unique opportunity for a senior marketing research professional.

The position provides an opportunity for the appointee to combine a lecturing role within the Department with specific research and consulting work at Rank. The position will require an outstanding person who can demonstrate high achievement in either academic or practical aspects of the profession.

The David Syme Business School is Australia's largest centre for tertiary studies in marketing. Hence the position is highly desirous and most prestigious in the eyes of the profession.

SALARY AND CONDITIONS: The two roles blend together to produce a varied and substantial career challenge and an attractive remuneration package in excess of $40,000 pa should be taken as a guide. This includes a senior lecturer salary and a consulting fee provided by Rank Electric Housewares Pty Ltd. The period of appointment will initially be for two years. Relocation assistance will be available.

Further information is available from Mr P. Chandler, Head of Department of Marketing, telephone (03) 573 2193.

Applications in writing should be sent to the Staff Officer, Chisholm Institute of Technology, quoting the reference number 82/64 and including personal and career details and the names and addresses of two referees, to reach him by 22 November 1982.

Caulfield Campus,
900 Dandenong Road, Caulfield East,
3145 Victoria, Australia.

UNIVERSITY OF CAPE TOWN

Senior Lecturer in Electrical Engineering

Applications are invited for the above post for appointment as soon as possible. Specialisation in Digital Systems, including digital electronics, microprocessors and real-time computer applications is required. The incumbent will be required to teach undergraduate and postgraduate students in the above topics, supervise and conduct research, and assist with the planning and running of laboratories for these purposes. This latter duty encompasses both hardware and software aspects of various mini and micro-computer systems.

Appointment, depending on qualifications and experience, will be made on the salary scale R36 557 x 936–R24 045. In addition, a service bonus of nearly one month's salary is payable annually.

Staff benefits include a 75% remission of tuition fees for dependants of UCT, generous study leave privileges, a housing subsidy scheme (subject to governmental regulations), pension fund, medical aid and group life assurance.

Applicants should submit a curriculum vitae stating present salary, research interests and publications, the date duly could be assumed and the names and addresses of three referees.

Further information may be obtained either from Miss J Lloyd, SA Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE, or from the Registrar (attention: Appointments Office), University of Cape Town, Private Bag, Rondebosch, 7700, South Africa, by whom applications (quoting ref no E/286) must be received not later than 12 November 1982.

The University's policy is not to discriminate on the grounds of sex, race or religion.
Further information on the implementation of this policy is obtainable on request

Don'sdiary

Sunday

Prove domesticity by cooking Chicken Marengo for family lunch: not bad either, but there must be an easier way to joint a fowl. Laze with newspaper and gaze at Test Match on telly, rather enjoying England's discomfiture. Then all stroll down to the Old Course and walk over the hallowed turf.

On return, Liz and I ponder whether newly-acquired chairs and settee are a mistake. Their immense size was not evident in the showroom. We feel unready to get back to work after last week's so-called holiday spent strenuously refurbishing our country cottage 60 miles to the north.

Monday

Good news at the mathematical institute: the Science and Engineering Research Council has approved my application for a research assistant. Though duly grateful, I have misgivings about the system. Grant hunting is becoming an end in itself, a status symbol and career enchancer. I make a few phone calls (cheap rate, by request) and write letters, mostly in search of an assistant. Then some Xeroxing, but the machine goes on the blink, its red eye flashing malevolently. I "call key operator" as instructed, but get no reply and go home.

In the evening, a few late holes of golf with son Peter. Showers, blustery wind and low-flying RAF jets prove too much for our fragile swings.

Tuesday

Review two papers for applied mechanics reviews. Then off to the Institute to catch up on latest redundancy news/rumour/speculation. In institute library – soon to be amalgamated, for economy, with the physics library – scan recent periodicals.

At home, I read myself back into work abandoned for so-called holiday: the half-finished fifth chapter of planned monograph.

Over tea, Liz and I discuss pros and cons of moving to a larger house. She is pro and I'm con, a not infrequent state of affairs. Conversation turns nasty when I suggest that we only need a bigger house because of the new furniture . . . I try to make amends by proposing an evening at the cinema. But Katie has a cold; so she, and therefore Liz, stay behind while I go with Peter. *Gregory's Girl* is a joy but *Chariots of Fire* a letdown.

Wednesday

Drive Peter to Dundee Dental Hospital for routine visit. Back home at ten, I make myself start writing. By six, I've produced four more bloodstained pages for chapter five. I wonder if it's time to approach publishers, but decide to plod on for a bit yet.

Non-academic acquaintances frequently ask how I am enjoying my lovely long holiday. If I bother to say that I'm busy doing research, they're likely to tell me how they, too, could use a couple of months' research every summer. I have yet to discover a short reply which does not make enemies.

At tea, Katie proclaims her recent tenth birthday a disaster, since Liz and I spent it up ladders working on the cottage. We promise a party and listen aghast to the ever-lengthening guest list. The new furniture still looks big, but at least it's comfortable. I have an early night with a Kazantzakis novel.

Thursday

First day back at school and for Peter the big step up to secondary. He leaves very early, looking unfamiliar in new blazer and short haircut.

The university's academic report for 1980/81 is newly out. My own contribution seems meagre, with just one paper, but Liz features prominently in Greek department entry. The report fails to convey intended message that research matters. Even when I understand the words, I often can't perceive the value of what's done. This is more true of science than arts. Though no boon to ailing British industry, the "Good Shepherd" theme in early Christian art and literature sounds interesting, but I'm not burning to know about effects of sodium nitroprusside on the frog ventricle. I suppose we must take the value of one another's disciplines on trust, but mutual trust is in short supply with insufficient resources to go around.

Check institute library to ensure that books which I recommended for next term have not vanished without trace. One has: I scribble a note to our librarian and compile mental shortlist of likely culprits. Fiddle around all afternoon with the four pages written yesterday. An unproductive day.

At least school seems to have gone smoothly – Katie and Peter are agreeably chatty.

Friday

Proofs of two papers arrive together from the *Journal of Fluid Mechanics* (no week is typical!) and I correct them carefully. I wish everyone did likewise. mathematics being difficult enough to read even without misprints. I do some reading for chapter five and worry lest the subject is advancing faster than I can write it down.

The departmental secretary telephones – an undergraduate has turned up to enquire about next session's projects. He comes to the house to discover whether the history of the calculus of variations enthuses him. I don't think it does.

This morning a postcard from Tilos reminded us of last year's splendid Aegean visit. Not even my colleagues believe that I did any work that summer. In fact, I achieved more, with only a bundle of offprints for stimulus, than I have this vacation with all academic modicons (nearly) to hand.

Things look up when Liz produces rainbow trout with almonds and courgettes for supper, accompanied by cider and French baguette. Encouraged by a sense of wellbeing, we rearrange the new furniture and decide that we like it after all.

Saturday

Children go off to visit friends, leaving Liz and me free to go to Edinburgh. It rains heavily and our aged estate car vibrates unless I drive faster or slower than I want to. At that "cultural slum", the Scottish Museum of Antiquities, we view exhibition of medieval Scottish artefacts, including our own university's maces. Next, the da Vinci *Codex* at the Royal Scottish Academy – closely mirror-written pages with marginal drawings.

Next spring, I shall mount an exhibition in our university library on three mathematicians who also studied fluid motion – Euler, Daniel Bernoulli and d'Alembert (died 1783). I must make some preparations soon.

Extravaganza continues with two Festival Fringe productions, the one man show *Beau Brummell* and Naya Theatre of India's delightful *Chamm the Thief*. Lastly, a late meal, appropriately Indian. We drive off into the night, sated with curry and culture.

A. D. D. Craik

The author is reader in applied mathematics at the University of St Andrews.

Labouring under an illusion

Bernard Crick

As I was saying, only the threatened or the obsessive are likely to read every word in the summer vacation. So almost as big a pity, if I may say so, that your own four articles on "The education revolution and modern society" appeared in the summer, and that some idiot leaked in August a rough, working draft copy of the Labour Party's important *Education After 18* report, thus ensuring the maximum of hasty comment. Newspaper editors sprang to the defence of Oxford and Cambridge, whereas relatively little of the draft report had anything to say about Oxbridge.

But your piece and the Labour Party committee's thinking both have one rare thing in common: they seek, in different ways, to grasp both the formal education system as a whole and the broader complex question of how men and women become educated. Press and public libraries are still, after all, of some educational importance. Back to Arnold and Macaulay indeed, not in the precise content of what they said but in their attempt to grasp the general relationships between education and society – say "culture". In that light the Department of Education and Science, the University Grants Committee and the Association of University Teachers are simply talking about something else.

As I was saying, last month I offered cold comfort for the threatened – when you tactfully indexed as "the need for staff mobility", though put negatively it was about disadvantages of the tenure system. So now a summer thought for the obsessive: those who love, whether erotically or masochistically, our system just as it is.

My thought is this: that our overwhelming commitment to teaching a rigid three year, continuous, full-time degree course to (if I may coin a word) adultescents (I mean more than adolescents but less than adults) must have an ethical basis, and that basis must have arisen from the turf, probably from Cambridge dons going to Newmarket Heath. E. M. Forster once told me (told me when I talked to him once) that their habit of going to Newmarket was something that they never mentioned in their writings or memoirs (he had forgotten Michael Oakeshott's *Guide to the Classics*).

What I seek for is the presupposition, in Collingwood's sense, of the practical activity. Few people question that the horses should begin at the same point and cover the same distance in roughly the same time; Germans and French don't make this assumption and nor do the otherwise very British New Zealanders. It came to me years ago at Sheffield University. A young woman of 21 at the end of her second year (she had come up a year late, somehow, luckily) proclaimed that she was "stale" and wanted to take a year out before her finals year to read around without pressure. She was serious. I supported her.

Pessimistic, paternalistic forebodings rained in from my normally affable colleagues: *she would never come back*, a proposition for which there was no evidence at all (rather like the late vice chancellor's dictum that "if you continue to sleep overnight in your room in the week, Crick, everybody else will soon want to" – and he a medical man!). I said that was her concern, to which it was countered that I was being "irresponsible". What about the risk that her local education authority grant would be wasted? And they wept for all the unusual effort they had put into teaching her personally that might be wasted (in fact most of us confused her with her sister). But the major attack was that "to give" (that is, to allow, tolerate or permit) an extra year was "*unfair* on the other students".

I yield to others in the sociology of knowledge, but where else could this competitive norm have become culturally internalized than on the race track? It was all a race, and we must not let one horse do better than another by changing the conventions of the sport. And in fact the Sheffield regulations specifically forbade a year out. So she connived at my suggestion at getting herself certificated as being on the edge of a nervous breakdown. A doctor was more sensible than my colleagues, though we nearly drove her there.

It is a bit obsessive of us. Think of a community of scholars and teachers, albeit with a particular tradition. But in what way does our scholarship depend mainly on teaching three-year degrees to school leavers? The Labour Party draft report was mainly on about the case for establishing an "adult educational entitlement" for all, an entitlement of both money and leave that could be spent full or part-time, on existing courses or new short courses. Such paid or assisted educational leave could be taken, they propose, at any of the existing range of post-school educational institutions. They do not demand that universities and polytechnics should practice "open entry", that is a parody of the report. Further education colleges would gain most. But they do very sensibly in my opinion, that universities should be much more flexible, offering short courses as well as degree courses, providing for part-time and evening study, particularly in relation to mature students.

Perhaps Fleet Street journalists have been reading some other draft, but the leaked or purloined one I've just read (71 pages and four of summary) contains nothing in it that seems to threaten university values or standards, though obviously it relatively more funding went to part-time courses and support for part-time and mature students, some universities would need to get in on the act or suffer further cuts. I think we would gain by moving in these directions with good grace.

Nor does it say that the Open University or Birkbeck College are the only other models for change. But it politely reminds the rest of the university system that it has something to learn from OU, Birkbeck and the polytechnics with their greater role in the whole education and development of communities. And I don't think Arnold would have demurred from the draft report's major premise: that you cannot consign most people to the dustbin after eighteen and allow only a few so much full-time study, itself, indeed, so absurdly concentrated. Most of the students we teach would, in fact, get far more out of it if they did even the same amount but spread in smaller doses over a longer time. The university should influence the world continuously, not seek to offer a temporary refuge between "school" and "the world".

America Today

Disappearing acts to let off steam

Peter David

American academia has been intrigued this summer by the mysterious case of the vanishing college president. Last May, Jay Carsey, president of the Charles County Community College in Maryland, disappeared without trace. Nobody knows where he went or why. But speculation among his colleagues and in the newspapers pinned the blame on pressure of work. Being president of an American college has never been an easy job. In the coming decade it is likely to become even more difficult.

The pressures being exerted on American principals and presidents have their echo in Britain. Recent events at the University of Manchester Institute of Science and Technology and the Polytechnic of Central London are indicators of the new and exacting standards which austerity will impose on academic managers. But the university vice chancellor or polytechnic director have it easy by comparison with their American counterparts. In Britain probity and prudence are generally enough to ensure the survival of even the most lacklustre institutional head. In the United States, real leadership is often required to keep universities afloat.

Perhaps the main difference between the two countries is the proliferation of private higher education institutions in the United States. Private universities still educate about a fifth of America's students. These colleges have no guardian angel in the form of a Department of Education and Science dedicated to their survival. They do, of course, receive government money in the form of grants or loans to students and money for research. But America, like Britain, is beginning to run out of students, and the federal government is cutting funds of student aid. As a result, many university presidents have indeed become the "merchandisers of erudition" caricatured early in the century by Thorsten Veblen. For many private colleges, where tuition fees are invariably higher than those of rival state universities, failure in the student market place will mean eventual closure. Inevitably, the entrepreneurial part of the job tends most heavily on the president.

In the state universities and the big private research universities, the pressure on the president is different in kind but no less taxing. Derek Bok of Harvard or David Saxon of the University of California do jobs which are in many ways more like those of corporate chairman than that of a British vice chancellor. Unlike vice chnncellors, whose university's fates are determined from on high, both men know that their own actions are important determinants of the destiny of their institutions. Wheeler dealering with government in Sacramento and soothing the rivalry of California's multiple campuses are integral parts of Saxon's job; for Bok rising $400m in private donations and securing multi million dollar licensing agreements with industry are routine working tasks.

The existence of real market forces, the ceaseless movement of institutions up and down the ladder of prestige and the simple difference in scale makes the job of the American university president infinitely more complex than that of the British vice chancellor. But the same factors also make the job more challenging. American academic leaders have not all become "mediators" of the brand identified in the sixties by Clark Kerr. Many have used the fluidity of the American academic system as an opportunity to exercise potent leadership, both academic and political. Yet there is a growing belief in the United States that the pressures on university presidents are becoming so intense that competent leadership will be a scarce commodity in the eighties. If the recession continues to bite deeper, many more presidents may be tempted to cut their losses and disappear.

LETTERS TO THE EDITOR

Relationship between government and the UGC

Sir, – Very drastic inferences are being drawn from the Secretary of State's letter to the University Grants Committee about his responsibility for taking decisions. It is being said that the whole relationship between government and UGC will be transformed and that the committee will be reduced at a stroke to a catspaw of the DES.

Now the UGC is a leading example of those major political inventions for which this country has been envied and admired. Like most of the inventions, however, its effectiveness relies significantly on perceptions of that effectiveness. It would therefore be a great pity if we, and friends abroad, came to believe that the Mother of University Grants is being murdered if she is not: and it will be well to ask what the evidence for our yet amounts to.

So it is first worth looking at what the Secretary of State said in his letter and what his minister said about it. Such letters have not commonly been published in the past, so it is difficult to be sure how it compares with, say Shirley Williams', but no doubt it can be read as being pretty directive in intent. Nonetheless it is striking to what an extent it is written in terms of endorsement of past UGC policy: it is peppered, or at least sugared, with phrases like "the committee have rightly tried".

When we come to the famous passages "it might be appropriate for ministers to take more responsibility- . . . for determining the broad character of the allocation of resources to the universities" we may wonder if the president of Magdalen, when asked, in the 1880s and 1890s to run the proto-UGC would have been so shocked by this.

Sir Herbert Warren knew perfectly well what the broad character envisaged by successive governments was, as did Sir William McCormick between the wars. After all the present almost incomprehensible terms of reference of the UGC only require it to "assist" in the execution of plans "that may be required". No one has ever been in much doubt who, ultimately, did the requiring, though the treasury officials who wrote the minute and were very good at clear drafting, knew the value of orotund ambiguity better than Sir Keith.

When Mr Waldegrave tried to explain to the House what Sir Keith implied, he took as his example the sudden expansion in science and technology in 1954. There were to be sure at that time some expressions of doubt, even alarm, at the directness of government involvement in the decision to double the size of Imperial College, but there was no panic. If Mr Waldegrave's inference from Sir Keith' letter was correct, then much less than the UGC's independence is in danger.

If Mr. Waldegrave was wrong, then the DES's ability to control the UGC will be constrained by a shortage of senior civil servants. Sir Keith is not well placed to remedy that. The universities have always been protected by a similar shortage at the UGC, and senates are protected by the shortage within institutions. On the Continent the clerisy retains a proportion of real power in the face of an apparently overwhelming bureaucracy because it provides a corresponding proportion of the expertise needed to fly the system. In the States the faculty are weak not so much because they face powerful laymen as because they allow themselves to be recruited by their institutions as an expert bureaucracy.

So long as central organs are weak in bureaucrats, it will always be difficult to centralize control. The AUT's call for a grants body that carries more public clout may be from its point of view merely unwise: to go on to insist that such a body have a strong bureaucracy is to ask that King Stork should be given a power-operated beak.

There is then another constraint on government that may tend to shield the UGC. The tertiary system is after all much larger than it was in the UGC's heyday. Two, or is it three, sectors which were then either essentially local or directly controlled by the ministry have been moving towards the national status recognized in the title of the NAB. In the process they have been acquiring elements of, and desires for, professional autonomy, as the spread of academic gentrification indicates. There is more to control and it is becoming less controllable. Ministers have not yet move to set up overarching bodies to control the whole of tertiary education: and can hardly have made that any easier by setting up the NAB. Unless, therefore, ministers attempt to run, they cannot hope to stay still. They would have to run some way before their control of the use of public funds in HE becomes much more significant than it was in Victorian times.

They would also have to run quite a long way before their encroachments began to affect the substance of the political device represented by the UGC. Until it is seen that the Secretary of State does not mean it when he describes the UGC as "uniquely placed to assess" the needs of universities, then there are advantages in continuing to believe in the autonomy of the UGC.

Yours faithfully
ROWLAND EUSTACE.
Administrator
Society for Research into Higher Education.
Guildford, Surrey.

Campaign for general degrees

Sir, – All power to Professor Raphael in his campaign for more general degrees in the humanities (*THES*, September 3), but I suspect that the very terms of his own article reveal why his hopes will be disappointed. Where has he been these last ten years while polytechnics (unmentioned in his text) have been developing in great number and some quality all and more than he seeks?

The professor misses two crucial points, one political, the other academic. Firstly, the organization of humanities disciplines in the universities is wholly antagonistic to the purposes of imaginative course development. Single subject departments (his own included), would have to disappear before his very modest ambitions could be met.

Secondly, there is no need to give general humanities schemes the kiss of death, as the professor does, by assigning them only to the "average" student. There is no necessary conflict, in a well-constructed degree course in the humanities, between breadth and depth. It is in the nature of humanities disciplines that they reach out one to another for the development of ideas and for the stimulus of new questions. Degree courses such as that at my own institution use this circumstance to produce a "general" degree which contains and re-inforces and ultimate specialism.

Good intentions cannot prevail over naïvety, ignorance and timidity. Neither, apparently, from this example, can a first degree in Greats.

Yours sincerely,
PETER BRUNSDON.
Principal Lecturer in Humanities.
The Polytechnic of Wales.

Socialist supplement?

Sir, – In a recent editorial you attacked the "cool reason" of the SDP's approach to higher education. Your remedy was to "fight fire with fire" – an emotive contribution to what *The THES* could be expected to conduct as a rational debate.

The editorial of September 3 on higher education referred to "a socialist reorganization of society", "bourgeois argument" and "the intellectual consumerism of the middle classes", whatever that is. The editorial concluded by endorsing Labour as "the only political party committed to the expansion of the social base of higher education".

This approach, shared by some others who have written for you, is a "committed" one. As with "committed" theories of comprehensive education, its priority is "social engineering" ie the "socialist reorganization of society that you endorse. Despite lip-service to "reformed standards", difficult to achieve under any system, there is no guidance as to how these might be attained. Perhaps it is assumed either that other educational problems are insignificant or that they will "wither away" once the overriding socialist goal has been achieved. The empiric at evidence is got encouraging and it is ironic that your advocacy of "socialist reorganization" is flanked by the small heading "Polish scholars seek asylum in Norway".

Given the consistent socialist "line" in the editorials, expressed in the jargon of political ideology quoted, is *The THES* a Higher Education Supplement or is it a Socialist Education Supplement?

Yours faithfully,
Dr M. H. TREVOR.
London School of Economics and Political Science.

OU tendencies

Sir, – In 1978 an essay I wrote was published in the Open University journal, *Teaching at a Distance*. The essay argued that at that time Open University literature courses were firmly Conservative in tendency. Its findings were not taken up by the national press, nor brought to the attention of the DES.

Yours sincerely,
ANTONY EASTHOPE.
27 Victoria Avenue,
Didsbury,
Manchester.

Mature students

Sir, – It sometimes looks as though the higher education system will always find ways of avoiding any improvement in its policies towards mature students. A couple of months ago, in this journal, Professor Tessa Blackstone adopted a passive, isolationist and therefore conservative view under a gloss of concern. Now Laurie Sapper, general secretary of the AUT has done the same. (*THES*, September 3).

In his article entitled "Opening the door on entry to university", ironically, he advocates keeping the door almost completely closed as it is at present. After saying that "we might have tackled the problems during the short-lived period of expansion in the 1960s", he lamely concludes that "We can only attempt to hold the door open to give opportunities to the mature students without formal qualifications and to that small group who are admitted on a basis other than their A level results. When the restrictions are removed and when we can foresee a reasonably stable future for the universities, then we can tackle the problems raised by the Labour Party's working group in a sensible and reasonable way".

When will these well-informed, well-intentioned and influential people use their influence to advocate the universal establishment of access or preparatory courses for mature students instead of passively reinforcing the status quo? As many of us constantly repeat, there are, shamefully, only a few examples in this country, notably the Open College in the North West, but they could easily be imitated if all universities, colleges of higher education and polytechnics simply made a positive effort to collaborate with at least one further education college. Recognized by the appropriate validating bodies, their preparatory courses can then become, as Sunderland Polytechnic has discovered, a model which other colleges of further education are keen to adopt. Reciprocal recognition of each other's courses can then be arranged between the institutions of higher education within a region or a sub-region. Since such a process will take years to be effective, why wait until "the restrictions are removed"?

No one needs to accept all the Labour Party's proposals to recognize that a general postponement such as that suggested by Laurie Sapper is the usual, devious but respectable strategy for opposing specific changes which are, in fact, immediately possible.

Yours faithfully,
HARRY WEBSTER.
Director.
Edge Hill College of Higher Education, Lancashire.

Creation

Sir, – In *The THES*, (August 27) Professor C. B. Cox reviews a book by N. D. Newell on the Crention-Evolution issue. I happen not to be in full agreement with the creationists' case as it is being currently argued in the States, but I must enter a protest at the tone of your reviewer. He speaks of "the creationists" habit of misrepresenting the views of scientists" and "of quoting the views of long-out-dated authors as though they were current attitudes".

I endorse is objections to practices unworthy of mature and serious controversy; but I cannot help noting that he falls fairly under his own condemnation. He must surely recognize that to imply that creationists are adequately categorized as those who "accept as divinely-inspired truth every word of the English translation (sometimes mistranslation) of the Bible" is plain injustice: many are exceedingly scholarly men – can supply him with names.

I wonder too how carefully his figures were arrived at ("50 million people in the States are born-again Christians" and "20 per cent of the population evangelists")? This style of controversy, I am afraid, gets us nowhere. Nor will it do to try to bounce the audience into the conclusion that this is a case of "scientists v creationists". It is not. Something less assuming is needed: I suggest "scientific orthodoxy v creationism".

I am afraid, Sir, that the Lapidian confidence of Professor Cox may be in for a rude awakening. The finality of evolutionary orthodoxy is far from being settled, and I don't doubt we shall hear much more of this issue. I hope the debate will be continued on a level both courteous and scholarly.

Yours etc
D. C. SPANNER.
7 Foxburrow Lane,
Tilley,
Witney.

Multi-racial training

Sir, – John Twitchin of the BBC has some hard things to say about the lack of commitment to multi-racial education and race relations in the training of teachers (*THES*, August 27).

This holds true, for much teacher "education" at undergraduate, post-graduate and in-service levels. However here in the school of education at Leicester Polytechnic multi-racial education has for a decade or more been an important part in our training of teachers. In this city which has the almost largest percentage of ethnic minority children in its schools we have felt it important to move from offering our multi-racial courses as options to featuring them as part of the core curriculum.

In this process we have built up a substantial resource both in staff expertise, library stock and audio visual material. All our students spend considerable time working in multi-racial classrooms.

I would point out that in spite of this important commitment Leicester Polytechnic is one of the schools of education that it is proposed to close.

Yours sincerely,
VALERIE MARETT.
Principal Lecturer (Multi-Racial Education).
Leicester Polytechnic.

Milton at Cambridge

Sir, – On page 8 of *The THES*, August 20, are these words: "Crisp joined Balliol in 1626 to take an MA, the year before Milton *arrived as an undergraduate*".

My information is: Milton, John, was educated at St Paul's School and at Christ's College, Cambridge (1625–32). Thus Milton was an undergraduate at Cambridge two years before he is alleged to have gone to Balliol.

Yours faithfully,
JOHN L. EDWARDS,
27 Weymouth Park,
Hope Cove,
Kingsbridge.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

Union view

Teacher cuts cut across NAB approach

The Government says it's committed to the coherent planning of higher education. But just how genuine is this commitment proving?

When the National Advisory Body was established, part of its terms of reference was "to contribute to a coordinated approach to provision, as necessary in relevant academic fields, between the local authority and the university, voluntary and direct grant sectors of higher education". Nowhere is such an approach more necessary than in teacher education, which spans all three sectors.

Yet less than two months after Christopher Ball had outlined to the CLEA conference how the NAB intended to implement its remit. Sir Keith Joseph – ignoring the advice of ACSET (what value advisory bodies now?) – decided to slash student numbers and recommend the closure of 14 colleges and departments of education.

The cuts in teacher training in the public sector cut right across the approach to higher education planning which the NAB is supposed to represent. The NAB venture is an exercise in open, cooperative planning between local and national government – the teacher training cuts have been imposed by central government with the barest attempt at consultation or justification. "Higher education in the scope of the NAB is local and regional in emphasis rather than national" (Christopher Ball) – the cuts are being made overwhelmingly on the basis of national criteria, such as past recruitment patterns and the primary/secondary balance. The NAB wants to look at programmes and at institutions, not just individual courses – the DES seems to have ignored the relation of teacher education to other courses in the colleges.

If Bishop Grosseteste College closes, the whole of Lincolnshire will lose not only all its initial but most of its in-service training. If the department at North London Polytechnic closes, a major initiative in encouraging students from the ethnic minorities to become teachers – advocated so strongly by the Rampton committee, Lord Scarman, the CRE and so many others – will be abruptly curtailed.

Centralized planning of teacher education may have been acceptable when there was a large, national system of monotechnic institutions. Now that we have much reduced provision largely integrated with the rest of the public sector, teaching courses have to be looked at in their full educational and social context.

Teacher education must be seen as serving local as well as national needs, as contributing to broad community as well as narrowly vocational goals. It would be nice to think that Sir Keith will recognize this, revise his ludicrously short timetable, and allow the future of teacher education to be considered as integral to plans for the rest of the public sector.

If we are to have coordinated planning of higher education – and NUS has always advocated that we should then that planning has to be cooperative and democratic. Arbitrary decisions by the Secretary of State have no place in a collective approach to planning, an approach which should bring together central and local government, institutions and community representatives, lecturers and students, in the search for common goals and common solutions.

Frank Howard and Jan Mellor

The authors are members of the NUS executive.